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ART. I. *Nautical observations, made by captain David Ingersoll, during the voyage of the Morrison to Lewchew and Japan, in July and August, 1837.*

SHOULD I again visit Lewchew, or Japan, I would proceed by the Formosa channel, as the current, during the S.W. monsoon, generally runs to N. E. $1\frac{1}{2}$ knots (whereas in the Bashee passage I had some western current), and probably better winds prevail there than south of Formosa. Near the Lewchew islands, the tides ran N. N.E. and S. S.W. $1\frac{1}{2}$ or 2 knots, during the last quarter of the moon: but in Jeddo and Kagosima bays little or none was perceptible; while the rise and fall was about 18 inches. Near Tanegasima and Jakunosima they ran S.E. and N.W. 12 hours, each way $\frac{1}{2}$ knot, moon full.

By reference to the table, all I know about the currents may be seen; the most in one day was 79 miles northeastward.

The S.E. part of the Island of Typinsan I made in $125^{\circ} 24' E.$ Horsburgh has it in $125^{\circ} 36' E.$ My chronometers made Napakiang Roads in $127^{\circ} 36' 30'' E.$, agreeing with Hall's survey. When at anchor there, with Capstan Rock S. $75^{\circ} E.$, Abbey Point S. $48^{\circ} W.$, I found two spots of coral rocks, about 20 feet in diameter, with 6 and 7 feet water over them, not more than 40 fathoms in shore, or to S. by E. of us: the water looks brown over them. In longitude $128^{\circ} 49' E.$, latitude $27^{\circ} 20' N.$, there is a small high island, probably Wukido, laid down in $128^{\circ} 23' E.$ In lon. $129^{\circ} 56' E.$, lat. $28^{\circ} 6' N.$, is a low, level island, about three miles long, not laid down.

Cape Tootomy Japan, laid down in $138^{\circ} 19' E.$, I made in $138^{\circ} 14' E.$ The western part of Yzou promontory, laid down in $138^{\circ} 49' E.$, I made in $138^{\circ} 41' E.$ Off Cape Yzou, about $\frac{1}{2}$ a mile, is a small quoin or wedge shaped rock; S.E. from this are two others; the outer one, being quite an island, is about $2\frac{1}{2}$ or 3 miles from Cape Yzou, and in a line with the south part of Osima or Volcano island, bearing N. $75^{\circ} E.$, 12 or 14 miles — between which there are no dangers, and from thence to Jeddo bay there are no invisible dangers, — so I was informed by the Japanese on board, some of whom had been 20

voyages along this route. Here the current ran strong to N. N.E., at least 3 knots. The above mentioned outer rock is in $138^{\circ} 49' 30''$ E. Yzou promontory has on its S.W. part a remarkable white spot, near the water, about 200 feet in diameter, also a sharp conical rock.

From our Japanese I learned, there are no dangers in the outer part of Jeddo bay, until a mile or two above Ouragawa harbor, which is on the western side. We beat up, the wind blowing strong, and part of the time very thick weather from side to side, but saw no dangers more than $\frac{1}{4}$ mile off shore. Cape Sagami, the western side of the entrance, I made in latitude $35^{\circ} 10'$ N., longitude $139^{\circ} 33'$ E. It bears from the point, forming the eastern part of the entrance, N. N.W., about 9 miles; close in with it, say 100 yards, there are 11 fathoms, rocky bottom, but here the bottom appeared very uneven. A ledge above water runs to S.W. $\frac{1}{4}$ mile; farther to northward and westward, than where I stood in, about $1\frac{1}{2}$ miles to westward of this ledge, is an island, forming, between it and the main, a bad harbor, with a village on the main, to northward. Squally, blowing fresh, and thick at intervals, I had not much opportunity for observation or sounding. Running in for an anchorage the western side of the bay, going quick, first cast gave 20, and as fast as the lead could be hove we had 18, 13, 12, 9, and 8 fathoms, when I anchored: the bottom, very uneven coral. The anchorage was in the N.W. of a small bay, making westward about $1\frac{1}{4}$ miles deep, the points bearing N. N.W. and S. S.W.; it may be 5 miles between them. Two rocks above water bore W. S.W. 1 mile, which appeared connected with a ledge under water that ran round to N. N.E., and not more than 100 yards from the ship; this we discovered from the breakers during the night, a heavy swell rolling in after midnight; when we anchored it was quite smooth. The anchor did not appear to have any hold, as it came up without an extra heave and clean. There appears to be no good anchorage about here, and what may be, is exposed to shot, being so close in; ours was about a mile off shore, 3 miles below Ouragawa harbor, which our Japanese say is a fine landlocked place, with 6 or 7 fathoms all over it. Off this harbor there is a small flat rock, about the size of a ship's hull, but not so high, it may be $\frac{1}{2}$ the distance across the bay, which is here about 5 miles in width. Jeddo bay above, spreads out to a width of 20 miles, filled up with quicksands and rocks, so that only small junks can get up to the city, through a most intricate and winding channel, about a mile wide,—so said our Japanese. On the heights above Ouragawa there appeared to be some strong batteries of heavy cannon, as the shot came at least $1\frac{1}{2}$ mile.

In running down the coast to Kagosima bay, the barometer was low for some days; 29.55 was generally the blowing point; but there was no bad weather, only a lack of wind. Krusenstern mentions the same circumstance. Cape D'Anville, on Kiusiu, I made in $131^{\circ} 19'$ E.

The entrance to Kagosima bay cannot well be mistaken, from Mount Horner, which forms the S.W. point, being a very remarkable, conical, regular mountain, from the sea to the peak. I made its longitude $130^{\circ} 32'$ E. From the south point of Kiusiu, (or Cape Tschits-tagoff by the Russians,) up 16 or 18 miles, the eastern part of the bay

is clear, as I went up on that side as far as the first village, which is hidden by a cliff until bearing about E. S.E. Our anchorage was on the western side, about 5 miles N.E. of Mount Horner, in a small bay $\frac{3}{4}$ of a mile deep, the points bearing N.E. by E. and S.W. by W. about 3 miles apart; village on a kind of shelf at the bottom of the bay N.W. by N. The bottom was hard coarse black sand, like cannon powder, poor for holding. The depth 100 yards from beach 4 fathoms, deepening gradually to 18, $2\frac{1}{2}$ miles off. We anchored in 7, with the above bearings, exposed from S. S.E. to S.W. by W., and from S. S.E. to E.; the land was from 10 to 12 miles distant. During our stay here, it was cloudy squally weather, so that no observations were obtained. The wind was light, except in squalls from southward, bringing in a large swell. After getting out, the ship was drifted within one mile of the N.E. part of Jakunosima island, where are 52 fathoms mud. Southerly winds prevailed on this part of the coast, probably the tail of the S.W. monsoon; easterly about Jeddo. Across Kagosima bay, the soundings are 50 fathoms mud. There are about the bay several conical, perforated rocks, through which the water flows.

I made the centre of the north part of Tanegasima in longitude $131^{\circ} 2' E.$; but was unable to determine the latitudes of most of the points mentioned; as near as I could judge, they are laid down correctly on Krusenstern's chart. Volcano island has, running from its N.E. part, a ledge or reefs, (some above others breaking the water,) that extends $\frac{1}{2}$ the distance to St. Julie island, which may be $2\frac{1}{2}$ miles from it to N.E.; one of these looks like a junk under sail. From the S.W. part of the island there is also a cluster of rocks, (about 100 yards in diameter, breakers and all,) about $1\frac{1}{2}$ mile distant with green water between them. In a deep ravine, on the east side of Vulcano island, yellow smoke ascended from three points, enveloping its summit. S.E. from St. Clair there is a haycock (high but small) shaped rock or island, about 5 miles distant; when bearing westward it forms one cock, when bearing north two.

In latitude $30^{\circ} 50' N.$, long. $129^{\circ} 27' E.$, is a cluster of pointed high rocks or islands, not mentioned by former navigators, but being so near the track to Nagasaki the Dutch have, probably, their position.

On 19th August, in latitude $30^{\circ} 33' N.$, longitude $125^{\circ} 19' E.$, sounded in 34 fathoms mud; for two days previous the water had looked like soundings. Same soundings continued until in latitude $29^{\circ} 28' N.$, longitude $123^{\circ} 50' E.$, when a breeze from N.E. was too valuable to be lost in sounding. I have but little doubt that soundings extend from the Chinese coast nearly to Japan's southern part.

From latitude 29° to 24° a space of 4 days, the barometer was down to 29.60 and 39, which low state induced me to down top gallant yards and masts, as by all old traders, or generally in the China sea, 29.50 is considered a signal to make all snug, in typhoon season. Until this time, and that on the coast of Japan, I have never known the barometer down to 29.50 without a gale. In June, returning to China from Java, the barometer fell to 29.50 and 40. I prepared for a gale, which followed soon, and lasted 26 hours; this was in latitude $15^{\circ} N.$, near the Paracels.

METEOROLOGICAL TABLE

Made by Captain Ingersoll, during the voyage of the Morrison to Lewchew and Japan, from July 6th to August 29th, 1837.

Date.	Latitude.	Longitude.	Air.	Water.	Barom.	Currents.	Wind, Weather, &c.
July 6	21° 44' N.	115° 56' E.	83.5	83.5	29.60	None	Light, westerly breeze: fine weather. Strong ripplings.
" 7	21° 26' N.	119° 07' E.	83.5	83.5	29.59	- None	Fine; west breeze, cloudy and threatening.
" 8	22° 00' N.	121° 57' E.	83	82.5	29.47	Westerly 20m.	West; strong gale, and high sea.
" 9	22° 39' N.	123° 02' E.	83	83	29.45	None	West, strong N. by W. breeze—moderate; heavy swell.
" 10	23° 24' N.	123° 46' E.	82.5	82	29.56	None	North, varying, calm: rainy, heavy sea from north.
" 11	24° 56' N.	125° 25' E.	83	83	29.67	N. 55' E. 23m.	S.W., squally—fine breeze.
" 12	Lewchew		82	78	29.80	N. 45' E. 35m.	While in Lewchew, weather fine,
" 13			82	78	29.85		with occasional squalls,
" 14			81	77	29.95		and light south and S. S.E. breeze.
" 15			80.5	78	29.95		E. N.E. fine.
" 16	25° 58' N.	127° 50' E.	82	80.5	29.88	None	Eastward—fine, clear.
" 17	27° 03' N.	129° 05' E.	81	79.5	29.84	None	S.E. clear; faint, oppressive.
" 18	27° 50' N.	130° 06' E.	83	80.5	29.90	None	S.E. faint airs, fine.
" 19	28° 12' N.	130° 50' E.	82	80.5	29.89	N. 45' E. 12m.	Calm. N. light; fine.
" 20	28° 51' N.	132° 24' E.	83	82	29.90	N. 6m.	Calm and faint; N. fine.
" 21	29° 21' N.	133° 06' E.	82	82	29.86	None	Light and calm; N. fine.
" 22	29° 36' N.	133° 42' E.	83	82	29.86	S. 45' W. 11m.	N. N.W. and S. airs—calm and oppressive.
" 23	29° 50' N.	134° 32' E.	83	82	29.88	S. 20m.	Variable, faint; hazy, and very sultry.
" 24	30° 01' N.	135° 05' E.	83	82	29.89	S. 11' W. 26m.	Calm, faint and variable—cloudless.
" 25	29° 56' N.	134° 53' E.	83	83	29.88	S. 6' W. 37m.	Hazy, faint, variable.
" 26	30° 56' N.	134° 38' E.	83	83	29.88	S. 40' W. 38m.	Light, S.E. fresh; easterly; fine.
" 27	32° 14' N.	135° 47' E.	83	83	29.88	S. 11' W. 6m.	Moderate fine; smooth sea, and oppressive.
" 28	33° 26' N.	137° 14' E.	81.5	82	29.86	N. 52' E. 53m.	Easterly, faint; squally off land.
" 29	34° 22' N.	138° 24' E.	78	80	29.80	N. 35' E. 43m.	Westward fine breeze; clear, E. faint.
" 30	34° 53' N.	138° 20' E.			29.80	N. 35' E. 40m.	Fresh east; rainy and squally.
" 31					29.60		N.E. squally; E. fresh, rainy.

Date.	Latitude.	Longitude.	Air.	Water.	Barom.	Currents.	Wind, Weather, &c.
Aug. 1	33° 21' N.	136° 50' E.	80	79.5	29.46	None	Easterly; fresh, N.W. fine; cloudy.
" 2	31° 46' N.	135° 25' E.	80.5	80	29.46	S. 64' E. 39m.	Moderate W. N.W. North, fine.
" 3	31° 53' N.	132° 57' B.	81	80	29.59	N. 70' E. 43m.	Strong breeze N., rough sea—east, fine.
" 4	31° 30' N.	132° 44' E.	80.5	80	29.64	N. 57' E. 40m.	Faint; heavy swell; east, calm.
" 5	31° 11' N.	132° 12' E.	80.5	81	29.69	N. 63' E. 70m.	Easterly, faint airs; and oppressive.
" 6	31° 17' N.	132° 50' E.	81.5	82.5	29.71	N. 63' E. 65m.	Light, variable airs; calm.
" 7	31° 23' N.	132° 28' E.	82.5	81	29.76	N. 57' E. 58m.	Southward, faint, calm, clear.
" 8	31° 35' N.	131° 30' E.	81.5	81.5	29.71	E. 36m.	Southward, light airs; sultry.
" 9	31° 06' N.	130° 55' E.	82	80.5	29.75	S. 20m.	S.W. light, calm—variable, current along shore.
" 10	31° 10' N.	130° 30' E.			29.70		S.S.W. squally and fresh; calm.
" 11					29.70		
" 12					29.78		
" 13					29.83		
" 14	30° 40' N.		82.5	82	29.80	tides to N.W.	S.W. calm and squalls; variable.
" 15	30° 59' N.	128° 32' E.	83	83	29.90	E. 20m.	Steady S.W. breeze; fine.
" 16	31° 20' N.	127° 12' E.	83	82	29.97	None	S.W. fresh; clear.
" 17	30° 59' N.	127° 04' E.	82	82	29.90	None	S.W. light and fine.
" 18	30° 51' N.	126° 06' E.	82	82	29.90	N. 63' E. 30m.	Southerly; clear, fine, light.
" 19	30° 33' N.	124° 57' E.	82	82	29.85	N. 64' W. 16m.	Southward; faint airs.
" 20	30° 12' N.	124° 12' E.	84	83	29.72	S. 45' W. 9m.	S.W. faint breeze; fine.
" 21	29° 23' N.	123° 28' E.	82.5	84	29.80	None	S.S.E. faint; N.N.E. light, fresh.
" 22	27° 21' N.	122° 26' E.	82.5	83	29.70	N. 60' E. 28m.	N.E. moderate, strong, squally.
" 23	24° 52' N.	119° 40' E.	81.5	81	29.52	N. 18' E. 17m.	N.E. fine breeze.
" 24	33° 37' N.	118° 35' E.	81.5	79	29.46	N. 23' E. 12m.	N.E. light calm; West, sultry.
" 25	23° 46' N.	118° 06' E.	81	78	29.40	N. 65' E. 11m.	S.W. light, cloudy, threatening
" 26	23° 29' N.	118° 02' E.	79	84	29.65	N. 40' E. 16m.	S.W. light breeze; clear.
" 27	23° 19' N.	117° 56' E.	81	80	29.64	N. 64' E. 24m.	Calm, faint airs, S.W. by S squally.
" 28	22° 35' N.	116° 59' E.	83	83	29.72	N. 51' E. 33m.	Fine breeze, S.S.E. equally.
" 29	Macao.						Rainy, squally; S.E.

Note. It was the intention of captain Ingersoll to prepare, along with the preceding table, a full nautical account of the voyage. His professional engagements and his declining health prevented in part the accomplishment of this plan, and the short paper, preceding the table, is all, we believe, he has left behind. Our local readers need not be informed that this able commander and excellent man expired the 18th of October last, in the Straits of Gaspar, on his way to Batavia,—his employers and friends being unaware, until the receipt of the intelligence of his death, that he was sinking under an insidious disease. He continued to discharge his duty to his employers, and to the cause of Christianization in Eastern Asia, with his wonted ability and devotedness, till within a few days of his death. His end was peaceful and happy. We trust some one will come forward, under the same noble motives, to supply the place he has left.

N. B. In the names of places we have followed the orthography of the manuscript. It is much to be desired that uniformity, in writing names of places, should be preserved: but this is impracticable, at present, with regard to Japan. The capital, for example, is written Yedo, and Yeddo, and Jedo, and Jeddo: the correct orthography, according to the Indian system, we believe, is Yédo—the *é* pronounced like *ei* in *neigh*, or *ay* in *lay*. We shall shortly again take occasion to remark on, and exhibit, that system of orthography which we wish to adopt.

ART. II. *Notices of some of the specimens of natural history, which were collected during the voyage of the Morrison to Lew-chew and Japan.*

THE few opportunities offered for collecting specimens in a voyage of only fifty-eight days, forty-eight of which were passed at sea, preclude the idea of any extensive notices. The least addition, however, to our stock of information concerning the productions of a field so large and comparatively, unknown will not be misplaced. Wherever the book of nature is spread out in all its variety and freshness, even the wayfarer, if disposed, can read a few lines, and examine the handy works of the Great Contriver of all things, with pleasure and profit.—And, in passing, we beg leave to suggest to those of our readers, who, as supercargoes, captains, or otherwise, pass through the seas interjacent the Indian Archipelago, the practice of preserving in spirits whatever in animated nature they light upon, no matter how common or well known. The seas and coasts in this part of the world teem with curious and unknown animals of various kinds, which usually can only be procured by those who are sailing from one port to another in the prosecution of trade, and who, while so doing, can make commerce a handmaid to science, and assist in repaying the debts that commerce has long since contracted to science. All that is required is to immerse the animal in spirits, taking a little care to close the jar to prevent evaporation. If possible, let the whole body be preserved; but if that is too large, the head and genital

organs can be separated. In the examination of the specimens, here described, Mr. Lay has kindly assisted the writer of these notices.

There are two kinds of millet cultivated by the Lewchewans; the *Milium nigricans*, or black millet, and the *Setaria italica*. The first species grows to the height of six or eight feet, with a stem half an inch in diameter, and is clothed at intervals with large clasping leaves, which when spread out in their verdure make this one of the most elegant of grasses. The stalk, however, can hardly support the weight of the branching panicle of seed at the top; and when it has become ripe and heavy, the first blast of wind or rude knock breaks the slender support, and the fruit comes to the ground, or more frequently hangs suspended midway. This does not appear to be wholly accidental, but intended to ripen the crop, and at the same time protect it from undue moisture and the depredations of birds. After the grain has attained its full size, the sun is the principal agent in ripening the juices, and if the communication with the stalk is cut off, the process will be more expeditious. Every one will remember the practice, usual among farmers, of breaking down the tops of broom-corn, a grass not unlike millet, in order that the tuft may be elastic and sound. This is a very fruitful grass, aptly called millet from *milium*, a myriad; the seeds being congregated into a graceful panicle a foot or more in length, which is filled with hundreds of round, whitish grains, affording the laborer a wholesome nutriment. The seeds are about the size of musket shot, covered when ripe with two coriaceous, concave glumes or scales, of a shining brown deepening into a black, which retain the seed until the flail of the thresher loosens their hold. As the fruit ripens, the inner paleæ or chaff coverings dry up, the beard of the larger becoming twisted like an awn, and projecting beyond the outer brown scales. At the base of the seed, one, two, and sometimes three, abortive florets are found, thus showing the prolific nature of the plant. The other species was less cultivated in the fields near the beach, and is probably not so great a favorite as the *milium*, on account of the smaller size and less quantity of the grain. Its head is a cylindrical spike, a foot or more in length, made up of short spikelets, which, increasing in size from the base upwards, makes the head top-heavy. The spikelets are filled with little white seeds, that afford on grinding a large proportion of chaff. The seed is surrounded with an awned involucre, which like a defensive bristle guards its trust, and projects beyond the glumes, giving the spike somewhat a bristled appearance. The stem is about four feet high, rather slender, with a few narrow leaves; and altogether it is much less graceful than its congener.

The *Convolvulus batatus*, or sweet potatoe, was growing, together with two species of millet, in the sand near the beach; and all seemed to be, like some of the people we saw, suffering for want of nourishment. Another species of the same family of Convolvulaceæ, the *Ipomœa maritima*, with obcordate, coriaceous leaves, and bell-shaped flowers of a beautiful purple, trailed over the sand, as if to hide, by its exuberant foliage and gay blossoms, the barrenness of its pasture.

This plant is common on the beach at Macao, and exhibits its flowers nearly ten months out of the twelve. If we look into the corolla, we shall find five slender stamens surrounding a pistil, whose blunt, summit and thick style remind one of the war-club of a New Zealand chief.

A species of *Salsola* and *Sedum* had also begun to establish themselves on the coral reef. The latter plant is of a vivaceous nature, and appears to be designed as one of the vanguard of vegetation in taking possession of the newly acquired territory prepared for it by the industrious corallifers. It grows in the clefts of the rock, subsisting chiefly on the moisture in the air, and rapidly extends itself over the stone. The *Vitex ovata*, a slender, elegant shrub, two or three feet high, with few branches, decorated the arenaceous fields with its small blue flowers. The leaves of this plant are of a cinereous, mournful hue; on the upper side nearly of the color of sand, and below of a dark brown. So closely does it resemble sand, that the young plants cannot always be detected at a hasty glance. At its feet crept a species of *Commelina*, with its blue blossoms nearly concealed in the leafy involucre. This plant will be known by the folded leaf that surrounds the flowers, and which also serves to cover the seed vessels; when the flower is in blossom it expands itself outside of the involucre, but both the bud and the ripening seeds are contained within its bosom. A delicate *Verbena*, about four inches high, grew in the damp grass, having obovate, serrated leaves, and small red flowers collected together in spikelets, up and down the stem. The *Amaranthus hecticus* grew in the patches of millet; an inconspicuous plant, with the flowers aggregated in a spike like those of wheat. The capsule was filled with a few black seeds, which spilled out as soon as the persistent style was touched; for the seed vessel is divided in the middle, and only requires a gentle pressure to burst asunder. One or two species of pine, and several kinds of fruit trees, were seen, which were sufficiently numerous to give a wooded aspect to many parts of the landscape. The *Inocarpus edulis*, or Tahitian chestnut, a tree fifty or sixty feet high, was in flower. The spikes of blossoms attended by a bunch of leave, grow out of the trunk and branches of the tree, and give it rather an odd appearance. A species of *Pandanus* and the *Cycas revoluta* were abundant along the beach, their thick branches and spreading leaves concealing the unevenness of ground, and making it necessary to exercise some caution in walking. The several kinds of grasses, as *Andropogon*, *Panicum*, &c., were collected; as were also a few other plants. On the hills behind Pootsung, the grass grew compactly forming a greensward, that reminded us of the meadows and flowers of our own country; and was the more observable from its absense in the southerly regions we had just left.

A delicate species of *Tabularia*, with dichotomous branches and white tubes of the diameter of pins, was found on the reef near Blossom Rock. The various kinds of madrepores, which are seen on the bottom of the harbor, through the pellucid water, in all their fantastic

forms and varied colors, some like shrubs, others like immense mushrooms, here the appearance of a pretty flower, and there a withered stump, suggest to the beholder the idea of an old neglected garden, with grottoes and arbors fallen to ruins, which had been suddenly submerged, and in which fish now wander, where once was exerted the skill of man. On comparing notes with the recorded observations of Beechey and others, we drew the inference that the harbor is gradually filling up with the coral. No shells or fish were brought for sale, and few specimens of either one or the other were seen. The rocks around Abbey Point were covered with snail shells, but the reefs offered a very small variety for the conchologist. The universal *Mantis precatória*, with its supplicatory, or more properly, its defensive, menacing, forelegs; the pyramidal-headed *Truxalis*, with its grass-green body; and the musical *Gryllus*, or locust, were flying about in great numbers. A *Cetonia*, or gold-green beetle, a slender waisted wasp, and several varieties of dragon-fly, are among the assortment of animated nature which calls Lewchew its home. To these general notices, we add a more particular description of a few specimens.

Calappa tuberculata (?) Hidden-footed crab. This differs in several minor particulars from the *tuberculata*, and probably is another species which our works of scanty reference prevent us from ascertaining more definitely. The whole genus of *Calappa*, and this species as much as any, are remarkable for the situation of the four posterior feet, which are concealed under the vault of the carapace or shell; while in this instance, the large, triangular forceps, form an elegant and perhaps safe protection for the mouth and its various appendages. It is difficult to describe the singular adaptation displayed in the structure of the claws of this crab. The fourth and largest of the joints is broad, and concave, and the small pincer, in shape like a blunt hook, is placed upon the edge, where it acts as a thumb, to hold the food, at the convenience of the maxillaries. The superior edge of the forceps, and the opposite part of the carapace, match exactly, and along the edges of each run a line of hairs, which oppose the ingress of all offensive substances. The whole circumference of the carapace is ciliated, its upper surface being unequally granulated, and of an ash-gray color. While many species of crabs, from the size of their prongs, are able to make defense against ordinary assailants, the *Calappa* seeks succor in concealment; his weapons are chiefly of the defensive kind. But the shield that he forms by the application of the arms to the thorax is not less noticeable for its elegance than for its utility. When withdrawn under its shell, this crab can hardly be detected from the earth on which it rests, a correspondence of color which no doubt often aids it in escaping detection. It is two and a half inches in breadth, and large enough to be worth capturing,—for it appeared to be used as an article of food by the Lewchewans.

Gelasimus, or Quadrilateral crabs. This specimen before us does not agree precisely with any of the sub-genera in the section of Qua-

drilatera according to Cuvier's Animal Kingdom, but rather comes between the *Macrophthalmus* and *Gelasinus*. The eyes are black, placed at the extremity of short pedicels, which are lodged in a groove or fossule under the margin of the shell, and do not quite reach to the lateral edges. The third and fourth pair of legs are much longer than the rest, and nearly equal. Between the legs, at their insertion, is a curious ciliated process, intended apparently to prevent undue friction of the limbs against one another. The right pincer is more than double the size of its fellow, with the teeth striated; the fingers of the smallest, when placed together, resemble a spoon. The tail is broad, having the last segment semicircular. The carapace or upper shell is quadrilateral, measuring nearly an inch each way, the surface shagreened with minute grains, and somewhat clouded. The antennæ, or little feelers growing between the eyes, are scarcely visible. The exterior maxillaries, or those hook-like things seen on each side of the mouth, which occupy the place of palpi in insects, are conspicuous, with a thin, raised border. The legs are pubescent; and there is, as a whole, a remarkable neatness about the workmanship of the animal. It was common in the beach at Napa, but its agility made it difficult of capture.

Another species of the same genus, the shell about one third of an inch across, remarkable for the comparative length of the legs, which measure nearly an inch, was procured at Lewchew. The ocular pedicles are shorter than in the preceding species; the antennæ minute. The tail is narrow, with the last segment triangular; and the whole body is covered with grey spots. It is less neat in its appearance than the preceding. While examining these, and other species of crabs, one cannot help admiring the various contrivances adopted for holding the eggs. The tail is divided into segments, and fits into a groove on the abdomen, so that when at rest it is even with the surface. On the inside we find several hairs proceeding from each edge, and converging the middle, performing the office of holders, that the eggs shall not slip out sideways. The female can thus carry her burden of eggs till they are hatched, without incumbrance to any motion, though the animal usually retires until the young can shift for themselves. In the long-tailed crustacea, as lobsters, crawfish, &c., where the tail is extended into an instrument of progression, the eggs are held on the under side by several broad plates, which clasp them so firmly that the motions of the member are not greatly impeded. The capacity of the tail is great, for we are told that the common lobster bears upwards of twelve thousand eggs at a time.

Asterias tessellata. Five rayed star-fish. This species, or one closely akin to it, is found in great abundance on the reefs. The whole upper surface appears like a miniature pavement of rounded stones; and the glass farther informs us that those are composed of minute granules. The sides of the longitudinal furrow which runs along the under side of the ray are furnished with moveable points of great hardness. The middle of the furrow is studded with soft cupped processes, which adhere to other bodies by changing at will the posi-

tion of a fluid found in them. The mode in which this is effected is by presenting a flat surface, at the end of the tentaculum, to the object, and immediately withdrawing the liquid within it. A hollow, cup-like vacuum is thus formed for attachment, which is detached by again filling it with the liquid: a contrivance as simple as it is effectual. When recently taken out the water, the rays are soft, and the animal, which as it were resides in the centre, moves them a little, rejecting the fluid from the cupped processes in its endeavors to escape. When dead, the rays contract and bend, and the whole body shrinks and dries almost to a shelly hardness.

Ophiura. Snake tail star-fish. This singular animal inhabits the reefs near the shore, protruding its black and scaly rays out of its retreat, ready to entrap the unwary prey, and draw it under to destruction. But if a powerful enemy seizes the exposed limb, it does not mind leaving it in the possession of the assailant, provided the safety of the remainder can be secured by the sacrifice, well knowing that the defect will shortly be supplied by a new growth. Their neighbors, the crabs, have a similar facility of repairing any mutilations of their limbs; and we might almost fancy that the two could attack and devour each other by turns, providing each other with a continual feast. The disk or central part is three fourths of an inch in diameter, nearly circular; and presents a velvety appearance, from the number of minute grains upon it; the margin is somewhat granulated, and the centre depressed. The rays are round and tapering, about five inches long, and fitted for clasping. They are closely joined, each of the joints bearing four conical bristles, and imbricated, overlaying each other in the manner of the scutellæ on the belly of a serpent, whence the name given to the genus. The disk appears as if seated upon the rays.

Blennius. Blue blenny. When we landed the first time at Abbey Point, the blue fish sporting in the lagoons on the reef attracted our attention; and one or two of the sailors jumped into the water to catch and examine such fairy little things more closely. But the fish were too alert for such clumsy angling, and it was not till several trials that they were caught, and then it was owing more to luck and their numbers than to art or agility. This species of *Blennius* is about an inch long; and its delicate blue color suggests the specific name of *cyanus*, as its most remarkable characteristic, if perchance it has hitherto escaped notice. All the rays of the dorsal fin, which extends to the caudal, are soft and flexible; hence it rather belongs to the order of *Malacopterygii* or soft finned fish. The muzzle is very obtuse, which is characteristic of the genus. The mouth is well armed with rows of teeth; on each side of the lower jaw is a long tooth, which interlocks into the upper jaw, bearing a miniature resemblance to canine teeth, which makes one think of a bull-dog's mouth. One is unprepared to find so formidable an array of offensive weapons in the possession of so gay and sportive a fish.

The day after leaving Lewchew, a small whale, called by the sailors, cow-fish, was harpooned, and when brought on board, proved to

be a *Globicephalus Rissii*, or the Round-headed Cachalot of Risso. The animal measured nine feet and nine inches in length, head eighteen inches long, and average circumference three feet. The skin was glossy and smooth; on the back of a black color, lighter under the belly, and marked with long cicatrices resembling scars from wounds, as is represented in the figure in sir William Jardine's work on Cetacea. There were only five blunt and eroded teeth in the lower jaw, which combined with the scars on his back, led some of the crew to congratulate the remainder of the school on being rid of such a 'fighting character.' The position of the teeth differs from Jardine's figure, which has them in the upper jaw alone; but on examination it was supposed that most of the teeth had fallen out, which sometimes is the case in the ca'ing whale, or globiceps (*Globicephalus deductor*). The dorsal fin was triangular and almost immoveable, fifteen inches long; two pectorals, fourteen inches; and all remarkable for their firmness and strength. The spiracle was three inches across, situated behind the eyes; between the valve and bone of the head there was a hollow place large enough to lay in the hand. The blubber was four or five inches thick about the head, gradually decreasing to the tail, and yielded only a gallon and a half of oil. The estimated weight of the carcass was 500 pounds.

The cavities of the brain, placed immediately before the blow-hole, were each about two inches in diameter, separated by the falx, and filled with a kind of white cylindrical Ascarides, some nearly six inches long. The eyes were less than those of an ox, placed behind the mouth; the sclerotic coat was nearly osseous, the iris of a dark color, but not red or orange, as is figured. The bones of the head were large and strong; those of the jaw were supplied with immense muscles, and the teeth appeared as if they were an integral part of the bone. The heart weighed 4lbs.; was 6 inches long, and 18 inches around; the walls of the left ventricle were $1\frac{1}{2}$ inch thick; the aorta and vena cava were between $1\frac{1}{2}$ and 2 inches in diameter, and all the valves and muscles showed the force required to propel the blood through the system. The *cordæ tendonæ* and the *columnæ carnæ* were between one and two lines in diameter, and two inches long. The lungs rested upon the diaphragm, two lobes on each side, nearly 18 inches long, of a reddish brown color, full of tubercles on the surface, and in the parenchyma. The two central lobes were broad, flat, and thin, but as long as the larger lateral lobes; and both were well supplied with bronchia, which as well as the trachea, were proportionably very large. The trachea were 3 inches diameter and 6 inches long, from the spiracle to the place of division into two bronchia. The stomach was divided, as it were, into two parts; the larger, into which the œsophagus entered, seemed to be merely a receptacle for the food, and opened into the proper and superior stomach. The villous coat of the latter was very soft, of a bright red color; it contained remnants of medura, cuttle fish or squids, and a few bones, but the animal vomited the greater part of its contents when dying, which were lost. The œsophagus was 4 inches in dia-

meter, its inner coat possessing great muscularity. Duodenum; 10 inches long, resembling a third stomach. Pancreas; light gray, flat, 6 inches long, 3 inches wide, and 2 inches thick. Spleen; structure dense, an inch in thickness. The intestines were 72 feet long, uniformly an inch in diameter; both coats thick and possessing great muscularity; contents a grayish liquid; colon $1\frac{1}{2}$ inch in diameter; and rectum, half an inch, and 3 feet long. Omentum wanting; mesentery without fat; kidneys lay on the back, lobed in the manner peculiar to the cetacea; weighed $4\frac{1}{2}$ lbs., 12 inches long and 5 inches broad. Liver weighed $8\frac{1}{4}$ lbs.; convex beneath and plane above; one of the lobes very small and nearly lost in the other; gall bladder small. The two small cylindrical bones, analagous to the ossa pubis of land mammalia, were 4 inches long, and supported the tendinous attachment of the prostrate gland, and the muscles of the penis. The distance between the preputial orifice and the extremity of the rectum was 8 inches. The testes lay in the cavity of the abdomen, cylindrical bodies 20 inches long, parallel with the rectum. There was an anomalous connection between the urethra and rectum near their termination, of a firm, round, imperforate band of a tendinous nature, half an inch in diameter, the use of which was not at all apparent. The heat and fatigue, however, prevented Dr. Parker from being so minute in the dissection as he desired.

The tail was two feet wide, and moved by a great number of large tendons wrapped together about the backbone, forming a weapon of prodigious strength.* The Japanese on board by dis severing these tendons into small threads, and splicing the ends in a very neat manner, made several fishing lines; thus exhibiting the accuracy of Kämpfer's observation, who says they make this use of them. When the animal was hanging suspended by its tail, in the agonies of dying, it threw itself out nearly in a horizontal direction, at the same time uttering most doleful groans. The muscular fibres were very large, utterly unfit to eat. The spinal column contained about 30 vertebræ, but they were not accurately counted. No openings for the ear or nostrils were observed. The valve over the spiracle was almost of an osseous firmness. This species does not spout a jet, though their breathing is distinctly heard at a short distance; they swim near the

* We extract a paragraph, from Jardine's little treatise, showing the mechanism of the tail in the cetacea. "The tail of the cetacea is peculiar; not vertical, as in fishes, but horizontal; by which great facility is given for their ascent to the surface, to which they must regularly resort for the discharge of the essential act of respiration. The agility of the lesser species, which they owe mainly to the tail, is universally known, and so powerful is it, even in the most gigantic varieties, that by its means they frequently force themselves entirely out of the water. This instrument of prodigious power is formed by the concentration of the muscles and tendons on all sides of the vertebral column. Mr. John Hunter remarks, that the mode in which the tail is constructed is, perhaps, as beautiful as to mechanism as any part of the animal; being principally composed of three layers of tendinous fibres. It comprises, in the larger species, in a single surface, from eighty to one hundred square feet; its length is only five or six, but its width is from eighteen to twenty-six. In its form it is flat and semilunar; its motions are rapid and universal; its strength immense."

surface: and we had several opportunities of remarking their habits during the voyage. We also observed several shoals of porpoises, which avoided capture, by never swimming near the ship. One of the crew, a shrewd whaler, said it was the current opinion among whalers in those seas, 'that Japan porpoises were too shy to catch.'

Seaweed, in great quantities and endless variety, was seen along the southern shores of Japan, connected with which were always found numerous species of crabs, prawns, fish, and sometimes shells. The weed appeared to form a nucleus and a pabulum for the smaller sorts, among which were several species of minute Crangons, and a few species of Lepas, which attracted, in their turn, Portuni and Lophii, who were themselves lastly devoured by the larger fish. Pumice stone, sometimes in pieces of half a pound weight, frequently floated by the ship, showing our proximity to a land where Vulcan contests the dominion of the soil with man.

Chironectes pictus.—*Antennarius*, of Commerson. This grotesque fish, called by sailors, sea-devil, or fishing frog, when once seen is not easily mistaken for any other. It was found, together with several other sorts of fish and crabs, in connection with the seaweed. The slimy body is destitute of scales, of a light yellow ground, clouded with dark spots and bands: and attached to the skin on the belly are a number of apendages of a loose, flabby nature, which are of very questionable use. The elongation of the carpus, and the palmated form of the pectoral fin, suggest to the observer the idea of hands, with a part of the arm; and the two dentate ventrals, immediately under the mouth and before the pectorals, bear no small resemblance to little paddles. The gill opening appears entirely wanting, till on a close inspection we find a pin-hole behind the pectoral fins, through which the air reaches the internal bronchia. This construction enables the animal to live a long time out of the water, and some of the same family, we are credibly informed, undertake short journeys on land, and even ascend branches of trees in search of food. The mouth is cleft nearly in a vertical direction; and when taken out of the water, the enormous belly is distended with air, giving the fish the aspect of a Diodon. A fin-like process grows out of the head, just before the dorsal.

Balistes. The file fish. One specimen was caught, of a dun brown color, and oval body, called by the sailors trigger-fish, from the singular articulation of the three dorsal spines. These are let into each other in such a manner that the anterior and largest spine cannot be depressed until the one behind it is unloosed; a contrivance not dissimilar to the hear trigger of a rifle.

Monacanthus, or one horned file fish. These are distinguished from the preceding by the single immoveable, dorsal spine; both are remarkable for their pyramidal snouts, terminated by a smaller mouth, armed with a few large teeth. This species is of a uniform dark brown; the skin is rough, covered with minute scales. The pectorals are narrow and spiny, which will account in some measure for the slow swimming of the fish; the second dorsal and anal fins are

opposite, long, and soft. The pelvic bone is salient in a small degree, without spines. This species was seen in large shoals to the southwest of Japan, feeding upon a floating gelatinous substance, and themselves becoming a prey to numerous bouetos, albicores and barracoutas, whose eager diving and plunging for them threw the water into quite a turmoil. We found their flesh dry and but indifferent eating.

Two other very small species of *Monocanthus* were fished up with the seaweed. One, $1\frac{1}{2}$ inch long, is marked by a yellowish ground, with dark spots irregularly scattered over its surface. The pelvic bone is prolonged into a spine; and the dorsal spine is jagged and conspicuous. The other, an inch long, is of a light brown color, spotted with black. The triangle formed by the bones on each side of the head, to the ends of the pelvic and dorsal spines, is very nearly equilateral.

Portunus. (*Lupa* of Dr Leach.) Swimming crabs. This beautiful species of crab was caught with the file-fish. It appeared to be abundant in the Japanese sea, and we often saw it swimming alone many tens of miles from the shore. It is remarkable for the breadth of the carapace, which is of a fine purple, marked with small dots, and for the length of the feet. The natatory powers, usual in other swimming crabs, are here increased by the inner edges of the broad carpi or joints of the legs being ciliated; which, added to the large, fin-like posterior feet, makes this crab very agile in the water. The forceps are strong and denticulated, enabling the animal to seize its prey with a merciless grasp. The fore edge of the carapace has nine teeth on each side of the eyes; the last one being prolonged into a stout spine, giving the shell an ovoid shape. The outer pair of antenna are bristle shaped; the inner pair short and jointed, the last joint bifid. The ocular pedicles are elegantly lodged in a fossule defended by small teeth, and are distant $\frac{3}{4}$ of an inch. The spines on the exposed parts of the body of this crab, undoubtedly prove a great means of defense, rendering it a very uncomfortable mouthful for a fish, while its own predatory habits and powerful forceps make it a dangerous assailant. On one specimen a kind of *Anatifa* or barnacle has lodged itself in the shell.

Echencis remora (?) Sucking remora. This curious and widely dispersed fish was found attached to a shark. It differs from the common, and well known inhabitant of the Mediterranean in having only seventeen plates in the disk on the head, while that has eighteen. The skin is a bright black color, covered with scales so minute as to be discernible only through a glass. The fins are soft; the dorsal is directly over the anal; the two ventrals originate together, directly under the pectorals. The numerous teeth which line the broad mouth and osseous tongue, are fine, and the points are turned inward like the teeth of a card. When caught, this fish was put into a tub containing a turtle, which was so much excited by being made a point d'appui by the remora, that it moved round with much vivacity.

Scyllæa pelagica. This animal when first caught appears like a shapeless mass of whitish skin, destitute of life or motion; after

waiting a little while, till it has recovered from its fright, we see small fleshy lappets protruding themselves from under a mantle, and the thing begins to crawl, though very slowly. Presently, numbers of small tentacula are seen moving in a furrow, that runs along the belly, at the end of which are two more lappets, near the mouth; and, continuing our observations, we are surprised to see what an odd animal this lump of skin proves to be. The longitudinal furrow along the belly is furnished with the means of progression, so contrived as to enable it to grasp the stems of the fuci; the four fleshy lappets on its back are the breathing organs, placed where they will not interfere with the motions of its proboscoid mouth, or interrupt its progress. The mantle is a simple border on each side of the belly; and the whole body is striated, which points out an analogy to the snails. It was often found attached to the seaweed.

The viscid scum which was repeatedly seen on both side of the island of Kiusiu is probably similar to what has been described as existing in the Arctic ocean and other parts of the world, and generally supposed to be the food of whales. The first patch of it was passed when off Cape Cochrane, on the southeast of Kiusiu, and occurred in broad streaks of a dark green and reddish color, extending as far as the eye could reach on both sides of the ship. On taking up a bucket full, the water was of a rose color, and surcharged with little granules of a semitransparent nature, which resembled boiled sago in size and color. They had no external organs of motion, and were probably a species of medusa, similar to that figured in No. 1 of plate 3 of Jardine's volume. We sailed through a succession of these stripes nearly half a day, going perhaps thirty miles. The other fields in the Yellow sea covered a much greater surface, as we met them every few miles for two days. The effluvia from the ocean in these places was very offensive, increased probably by the heat of the sun. The granules that were examined were much smaller than in the previous instance, being half a line and under in diameter, and bearing a great resemblance to grass seed. The color of the stripes was generally red, which sometimes changed into various shades of green and yellow, as the light of the sun fell upon them. One of the officers remarked, that it resembled the scum often seen on the coast of Brazil.

These collections of animalculæ, for such most of them no doubt are, occur in various parts of the world, and all are probably used as food, not only by whales, but by several kinds of fish. The vast shoals of file-fish seen in it, in the Yellow sea, appeared to be feeding upon it. Scoresby's account of the immense fields which are constantly met in the Arctic ocean is so instructive that we need not apologise for referring to it, as condensed by Jardine. Mr. Scoresby examined the qualities of this green water, in which the whale usually occurs, and to his astonishment found that it obtained its color from the presence of immense numbers of animalcules, most of them invisible without the aid of a microscope. The greatest number consisted of an animal of the medusa kind, belonging to an order with

which most persons are familiar, known under the name of sea blubber, a soft gelatinous substance, often found lying on the seashore, and exhibiting no signs of life, except shrinking when touched. He found the prevailing specimens to be globular, transparent, and from one twentieth to one thirtieth of an inch in diameter. Others resembled small portions of fine hair, somewhat dark in color, and verging in length, from a point to one tenth of an inch. There appeared to be about thirty bead-like articulations in the largest, being thus beautifully monoliform; their diameter appeared to be about one three-hundredth part of an inch. The microscope detected others which were wholly invisible to the naked eye. The number of medusa was found to be immense. Mr. Scoresby estimates, that two square miles contained 23,888,000,000,000,000; and as this number is above the range of human thought, he illustrates it by observing, that 80,000 persons must have started at the creation of the world to complete the enumeration at the present time. These animalculæ are not to be considered as the immediate food of the whale; they form, however, the food of various shrimps and crabs, and larger medusa, upon which the whale is supported. The extent of the green water in which they are found is estimated by Scoresby to be about twenty thousand square miles. Though it is liable to alteration of position from the action of currents, still it is always found, year after year, near certain situations. While the great extent of these 'pasture grounds,' and the inconceivable number of the animalculæ, raise our conceptions of the omnipotence of their Maker, who regards them all as a very little thing, our admiration and praise is excited at this wonderful manifestation of beneficence and care. Dr. Poeppig, a recent traveler around Cape Horn, describes a field resembling that through which the Morrison passed, but of a much less extent. The sea was of a dirty red color, changing into a purple, and when agitated into a rose color. The water was filled with little red dots, that under a magnifier proved to be infusoria of a spherical form, whose lively motions were only upward and downward. They were extremely sensible to the effect of nitric acid; for a single drop mixed in a glass of this animated water, put an end almost instantaneously to the millions it contained. The superficies of this streak was estimated at 168 square miles; and every one who has ever seen one of them, will join with him in confessing, that the numbers of the animalculæ infinitely surpass the comprehension of the human understanding.

When passing through the sea south of Japan, and along the coast of China, we were visited by many insects from the land, chiefly dragon-flies and butterflies. The former were very abundant when off Kiusiu, although we were out of sight of land, and they must have traveled many tens of miles. A few gulls and two species of albatross were seen, but generally speaking, the shores of Japan were destitute of those large flocks of sea fowl observed on many other coasts. When off the coast of Fuhkeën, one or two of the numerous fishing smacks were visited, whose cargo chiefly consisted of cuttle-fish. These had been opened, and were spread out in the hot sun to dry, and sent off an odor almost insufferable.

ART. III. *Remarks on Formosa, respecting the rebellion of Choo Yihkwei, with suggestions for quelling insurrections, and for the improvement of the island.* From the works of LUHCHOW.

THE opinions of Luhchow, on the commerce with the Indian Archipelago, may be found in our fifth volume, No. 10. From the perusal of that document, as well as of his other miscellaneous writings, we easily perceive, that he was a man of very strong mind, in many instances rising above the prejudices of his countrymen. Bred up in Changchow foo, a flourishing department, he valued trade as necessary to the subsistence of the people of his native province, Fuhkeën; and whilst he betrays all the pride of superiority, which 'the flowery natives' claim over the barbarians of the west, he can gloss their faults, whenever forgetfulness of their many bad qualities will help to make good his argument. We may have in future an opportunity of advertising to his other writings, but at present will confine ourselves to his treatise on Formosa. A translation of what he has written about this island, would but little edify the foreign reader, because there are so many names and such long details of unimportant events. However, we can give his sentiments as those of an eminent Chinese statesman, worthy of perusal.

Formosa, from its position, fertility, high state of cultivation, and dense population, is the most important acquisition of territory, which has been made to the Chinese empire by the present dynasty. Comparing this island with Java or Luçon, which have been governed by a policy superior to that of the Chinese, we must, after an impartial examination, declare in favor of Formosa, as being by far the most valuable possession. The reason for this preference, we do not find in its being of greater extent than the other islands, for it is the smallest of the three; nor in its harbors, for most of them are very unsafe; nor in its fertility, for in this point too it is inferior to both the others; but in a numerous, industrious population, which on account of the climate can lay the soil under more heavy contributions, than the enervated inhabitants of the south. According to the best accounts we have, there are no less than two millions of Chinese in Formosa engaged in the cultivation of sugar and rice, and about 400 vessels continually plying between the island and the Chinese coast. When it is taken into consideration, that a great part of the sugar consumed in the northern provinces of China is produced on this island, and that millions of the people in Fuhkeën depend almost entirely for their support on the rice imported from thence, we may fairly conclude, that great numbers of laborers are always at work to supply these wants. Many parts of the opposite shore in Fuhkeën are so barren, that without the aid of the oil-cakes from Formosa, used in manuring the sandy hills, even the sweet potato, would not be produced.

Under such circumstances it may be easily conceived, that the intercourse between these two countries is very brisk; they are mutually dependent on each other for existence, Formosa furnishing the nourishment, and Fuhkeën the people for extracting it from the soil. Ever since this island first came to the notice of the Chinese, there has been a constant influx of emigrants from the southwestern parts of Fuhkeën. They have gone on increasing to this very day, and the western division of the island is already too small to contain them; hence they have commenced cultivating the northeastern parts, and probably will not cease from their encroachments until every inch of ground is taken from the natives. The government, alarmed at such a rapid increase of colonists, early made laws for repressing their enterprise, but has not succeeded in its impolitic efforts. The whole island will very soon resemble the most thickly inhabited parts of China, and be able to send colonists to other countries. We are surprised that the Chinese do not pursue the same course in Luçonia, as they have in Formosa. A little colony, which, during the Dutch administration was of no value whatsoever, because it produced nothing of importance, now greatly exceeds any and all European establishments of a similar description in the east. What would such a fertile island as Luçonia become, if it could be cultivated by an equally industrious population!

The same considerations, which attract so large a number of settlers, strongly tends also to make it the abode of a race of outlaws—thieves and swindlers, who have been obliged to fly from their country. When once they have reached Formosa, they retire to the distant hills, and there live without constraint, not dreading the avenging arm of justice. These are the men, who, heading rebellions, so frequently distract the island. It is well known also, that the officers sent thither, feeling themselves freed from responsibility, often adopt arbitrary measures and extort heavy sums from the people. This has been so constantly done, that the colonists, to protect themselves, enter into close compacts, and by combining together often defy the power of their rulers. When, however, their oppression is too severe, and they are convinced they will be the weaker party, they either yield quietly or betake themselves to the mountains, and associate with the lawless vagabonds, who inhabit those retreats. When a fit opportunity for taking revenge has arrived, they descend upon their oppressors, and the governmental forces are often defeated. Hitherto the rulers have never succeeded in putting down, entirely, these outlaws, whose strongholds are almost impregnable. The policy of bribing the chiefs to submission, and of making a few helpless wretches the victims of their wrath, so common among the Chinese, has been repeatedly and most successfully adopted. But the flame of insurrection is not thereby extinguished, and but few years ever elapse in which the contest is not renewed.

Luhchow, who ably traces the causes of these frequent insurrections, also suggests their remedies. His advice is very reasonable, though his measures can never be carried into effect, so long as

corrupt officers hold the sway. Arrangements have been made by government, that every new colonist should be provided with a passport, to be granted only when his neighbors have given ample testimonials that he is a good and industrious man. This regulation, however, is frequently evaded by the local officers in Fuhkeên, who are glad to get rid of governing more people, than the produce of the soil can maintain. The evil will continue and spread so long as the emigration increases. The country, therefore, cannot enjoy a lasting peace under the present system; for, supposing even all the bad and unruly inhabitants were confined or executed, new recruits from the mother country would soon overspread the island.

We will now cite a few particulars respecting a rebellion, which occurred in 1722, the sixteenth year of the reign of Kanghe. Formosa was then a recent acquisition; and though its sovereign had been 'reverentially submissive' to the celestial dynasty, his subjects were by no means pleased with the swarms of hungry officers, pouring into their country to devour the fat of the land. These magistrates were particularly oppressive in levying the taxes, which had been considerably increased, while the murmurs of the peasantry grew daily more loud.

There lived at that time a colonist, from Changchow foo, called Choo Yihkwei, a worthless character, who, detested by the inhabitants of the village where he lived, left the place and became a police-runner. Soon afterwards he lost his situation, and having no land to cultivate, sought a livelihood by feeding ducks. According to their custom, these feathered tribes marched daily out in regular rows, like the files of soldiers, and returned in the evening in the same manner. This circumstance appears to have suggested to our hero the first idea of military tactics, and he seems not to have been slow to improve upon the instruction. Having met some of the outlaws, he prepared a sumptuous dinner, and for that purpose killed his ducks. From that moment he became a desperado. Ten men only, ground down with oppression, had sought safety in flight. To these, others were soon joined; and Choo Yihkwei very adroitly proposed, that their enterprises should be carried on under the semblance of patriotism in behalf of the fallen Ming dynasty, of which he was a clansman, his surname being Choo. All assented, an oath was duly administered, and every conspirator bound himself to press new recruits into their service; and their number soon increased to several hundreds. The government now thought fit to send some troops under the command of a lieutenant against them. This valliant officer, as every other Chinese hero must do, reported a victory, though the rebels escaped into the mountains. To make sure, however, of their extirpation, a reward of three taels for every head of the malcontents and five taels for those of the chiefs, was promised to the aborigines, who inhabited the mountains. This offer was too tempting for these savages to resist, yet finding it difficult to catch the marauders, they decapitated some innocent people and burnt their houses. Having done this, they presented their heads. Such proceeding, under

the sanction of government, gave rise to confusion and misery; the people detested their rulers, but favored the cause of the insurgents.

Under this dismal aspect of things, new troops marched in pursuit of the outlaws, under the command of a brave general. Though victory upon victory was obtained, according to the accounts of our author, the rebel army, like a hydra, grew stronger and stronger, the more it was beaten. Notwithstanding all the defeats, the rebel leaders determined to carry off the public treasures of the capital, but to keep on good terms with the people. They only waged war against government, and all their enterprises converged to this one point—its entire overthrow. When we here speak of battles, the reader must not suppose there were engagements like those of Leipzig and Waterloo. No such thing; for, though there were more encounters within two years, than during the French revolution, yet the Chinese, being more humane than those western barbarians, brought only a few hundred soldiers into the field; and hard words, the chief weapons of their warfare, were exchanged with great virulence. In one memorable encounter, several tens—yes tens—of rebels were actually slain! Whilst these invincible troops, crowned with laurels, were enjoying all the satisfaction of having destroyed the lawless bands, the insurgents, by a countermarch, entered the capital, took possession of all the public money, with a great quantity of gunpowder, and fire-arms. Elated with success, they performed a mock ceremony of crowning Choo Yihkwei emperor; and now this duck-feeder was elevated to the throne, being in the pride of his heart a mighty potentate. The Chinese officers, including the naval commanders, very wisely fled to Amoy; and as their misfortune could no longer be disguised, they addressed a humble note to the governor, who in his turn wrote to the emperor, promising that within two months the rebels should be extirpated.

Such things as these, being of ordinary occurrence in the celestial empire, we will no longer dwell upon them.

Whilst terrible forces were collecting on the shore of China, threatening to conquer the island, Choo Yihkwei most resolutely maintained his imperial rights, forbidding plunder, and protecting the property, as well as the persons, of his new subjects. If any one of his soldiers did not pay sufficient regard to his injunctions, he lost his head. Such discipline had the most salutary effects, and inspired the whole population with confidence in their new master.

At length, the new Chinese army embarked at Amoy, consisting of 22,000 soldiers and 120 officers, all burning with a desire to signalize themselves. The commanders, having called a council of war, their future proceedings were discussed, and it was unanimously agreed, that, since the number of rebels amounted now to about 30,000 men, it would be best to slay only the chiefs, and to grant life to the heedless multitude. This was certainly a wise plan, for in order to slay the said army, it was first necessary to capture it; and to carry this into execution was now the only difficulty. Moreover, every rebel who surrendered of his own accord, was to be allowed to return home unmolested.

The first exploit was the burning of the rebels' fleet, which was anchored at Lökang. Immediately afterwards a fort was taken by storm, which, however, had no garrison. The subsequent events were one continued series of victories over the disheartened rebels, who often did not wait for the charge, but fled as soon as they saw the imperial soldiers advance. We should fain record the names of many heroes, who gained in the fields of Formosa a lasting renown, but they are really too numerous, and we leave it to the celestials to emblazen their memories. The assault of the imperialists must, according to our author's account, have been irresistible. The fire of their matchlocks and batteries, shaking the very earth, spread terror into the rebel ranks. In consequence of this signal success, a report of victory was sent to the continent, and all looked for the great rewards which the imperial munificence would assign to them. When lo! to their utter astonishment, there arrives an imperial rescript, in which his majesty assigns, as the cause of the rebellion, either the extreme want of his loyal subjects, or the extortion of unprincipled officers; and decrees, that, to massacre a misguided people would be cruel and wicked, because they were his children; and, therefore, he commands the governor of Fuhkeen to soothe and quiet the rebels, not to kill them.

On the arrival of the civilians, sent to soothe the people, affairs took a most wonderful turn. Nine tenths of the rebels surrendered, and even Choo Yihkwei with his associates, after a hard fought battle, fell into the hands of these compassionate officers. In almost all similar events, the celestial terrors were slighted; but when the extreme mercy of the emperor was made known, the people were touched to the very heart, and of their own accord yielded obedience. Whether silver balls were found more effectual in this warfare than leaden ones, we are not told by our author; but the sudden and entire submission makes us rather suspect that this was done, to bring things to a safe and speedy issue. We are not able to explain the subsequent events. Notwithstanding the great heroism displayed, there was still a stubbornness in the remaining rebels, which baffled all the efforts of the victorious army. There were many skirmishes which led to no satisfactory results, but only emboldened the rebels to persevere in their resistance. Epidemic diseases now began to break out amongst the soldiers, and great numbers were swept away. The aborigines received orders not to harbor any rebels; and though these inoffensive people, whilst overawed by the presence of the military, did not dare to enter into a league with the outlaws, yet when they were freed from such restraint, they were very slow in the execution of the orders of the government.

From all we can learn, they are very timid, and very much exposed to the tyranny of the Chinese, which often renders them desperate. The tide of population has forced them from their ancient abodes, and great numbers live amongst the inaccessible mountains, without any intercourse with the inhabitants of the plains. Kanghe had in the mean while departed this life, and his successor immediately took vigorous measures for subjugating the country. He ordered, that all

the disposable forces of Fuhkeën, should remain in the islands as a garrison, that the civil appointments should be increased, and a censor constantly reside in the island, in order to watch over the behavior of the officers. The grand engine, however, which was to be set at work to suppress the prevailing rebellious spirit, was the renovation of the people, that they might learn the duty of passive obedience; the savages of the mountains were to be tamed, and then changed into men. To insure the future peace of the country, a line of fortresses was to be erected, and no efforts to be neglected to render the people virtuous. The execution of these, and many more commissions, was entrusted to an imperial envoy; and it is on record, that he, in conjunction with the local authorities, obeyed the imperial commands, to the very letter. After the exhibition of this paternal kindness, we hear nothing more about that rebellion, the storm was hushed, the fire was extinguished; but, unfortunately, the embers were still burning, and a few years afterwards again broke out, giving new anxiety to his imperial majesty.

If any one will take the trouble of examining the history of the rebellions, which have taken place in this country, he will soon observe, that they are carried on in a regular routine—as every thing else is done in China. The people rise; the military march; are driven back, reinforced, prove again unsuccessful, until some civilians arrive, who finally put all things into order. After this, an imperial decree is issued, promising oblivion of former misdeeds, and moralizing upon the depraved state of human nature, which is to be changed radically by inculcating filial piety, and love towards inferiors. This document closes the drama: henceforth all is peace and submission, and matters return to the same state in which they were before.

The next paper to which we wish to refer, contains Luhchow's suggestions for putting an end to the insurrections, and making the mountains accessible and their inhabitants submissive. Though the country enjoyed at that time tranquility, the natives withstood the soldiers, and became every day more and more daring. It was, therefore, proposed to adopt measures for soothing them, a suggestion which Luhchow utterly rejects, because it would greatly injure the dignity of government, and only shew its weakness.

Under the Dutch administration these people had been very docile. Without any difficulty they delivered the allotted number of stag's hides into the Company's magazines, and behaved themselves in every other respect as loyal subjects. But then they were not ruled with a rod of iron; a school-master who taught them the rudiments of Christianity was their governor, and he attached them by gentle means to their foreign masters. Thus it happened, that during the war between the Chinese and Dutch, these people remained faithful, whilst many suffered a cruel death for having advocated the cause of the Company. The Chinese pirates were especially incensed against the school-masters, some of whom, after most cruel torture, were crucified at the entrance of their respective villages. When they had fully come under the Chinese yoke, they were divided

into townships, and measures taken for assimilating them, in their manners, to the Chinese. How far the conquerors proved successful in this endeavor, we cannot say, but their numbers constantly increased, while both the mountaineers and the tribes on the east coast remained in full vigor.

It is principally to the mountaineers, that Luhchow's remarks refer, the tribes on the eastern part of the island being scarcely known to the Chinese government. What prevents the junks from visiting that coast we have never been able to ascertain, but no trade appears to be carried on between the two nations, and the country itself is as little known as if it were situated thousands of miles distant. In two voluminous native topographical works upon this island, which recently have fallen in our way, we could find nothing respecting the aborigines of those eastern regions, nor have any European navigators by their researches thrown much light on their condition.

But to return to Luhchow. He tells us, that the aborigines are of a stupid disposition, and are often misled by the Chinese merchants, who do not scruple to rob them of their property. To remedy this evil, the good people ought to be exhorted to be content with their rightful property, and the soldiers, who do not seem to be over-righteous, ought to be enjoined never to trouble the people in any way. Whilst being extremely vigilant to detect every semblance of a plot, those who become informers against such as enter into illegal correspondence with the aborigines, ought to be rewarded, so that early notice of conspiracies may be obtained by the Chinese government. The haunts of the aborigines being difficult of access, though a line of military posts has been established all along the frontier, it would be well to give the natives one month for tendering their surrender, and in case of their obstinacy to execute military law upon the disobedient. But as a thief cannot be hanged before he is caught, it is advisable, that an assault be made, headed by natives under the control of government, and in order to strike terror into the mountaineers, their jungle and forests ought to be set on fire to smoke them out. A similar and equally charitable measure is first to prevent their tilling the ground, and afterwards to cut off all supplies, in this way to reduce them to starvation. As salt is an indispensable article of their diet, and the use of iron so common that without its importation all warlike preparations must stand still, it is suggested to keep these two necessities entirely out of the reach of the natives. In their warfare they use pointed swords and poisoned arrows, which do a great deal of mischief to those unaccustomed to their encounters. It is therefore needful to manufacture good shields, and spears with a large shaft; but above all, to use fire-arms in lieu of bows and arrows, of which the natives do not entertain the least fear, whilst they tremble at the thunder of guns.

In reviewing the former exploits of the military, our author is of opinion, that the soldiers were never sufficiently rewarded for their bravery, nor properly punished for their want of courage. His very sensible advice is, therefore, to stimulate a sense of honor in their

breast, and to rouse them to emulation by recompensing their deeds of heroism. Yet their numbers never being complete, it is proposed to raise a militia, which might serve in time of war, and then be disbanded. A former military commander tried the experiment, but paying only 600 cash (about two thirds of a dollar) per month to each individual, and giving them just rice sufficient for preventing actual starvation, they very soon dispersed and sought other more lucrative employment. But the pay ought to be raised, and every encouragement given for their enlisting under the imperial banners.

Whether this measure was carried into execution or not, we are unable to say; but the natives continued to make inroads upon the Chinese territory, and thus elicited other remarks from our writer. Being persuaded, that their unruly spirit could be curbed only by a strong arm, he gives it as his conviction, that unless a strong line of military posts were drawn along the frontiers, and the people induced to cultivate the country in their vicinity, and thus gradually to encroach upon their territory, their invasions could not be prevented. Had Luhchow lived in our enlightened times, he would have advised government to construct rail-roads to facilitate communication, and would have quoted the highlands of Scotland as an instance of the successful subjugation of the fiercest western race, by laying their lands open to an unrestrained intercourse. There may still be time for introducing this improvement; but the immense Chinese population, forced to clear new lands in order to obtain subsistence, will perform the needful, and drive the natives from one place to another until they have become extinct!

After the rebellion mentioned above, the island became a scene of the utmost misery and wretchedness. The country had been laid waste, and pestilential diseases swept away great multitudes. The emperor, always ready to relieve the distresses of his children, appointed a commission for examining into the existing evils, and Luhchow could not forbear giving his advice gratuitously.

The colonists of Formosa had been accustomed to trifle with the laws and prohibitions of government, and the first step to be taken was to put them in force to the very letter, that the people might be taught to obey. Moreover, it was a very notorious fact, that the inhabitants delighted in litigations, stirred up by a number of designing demagogues. To obviate this evil it was necessary to execute justice without the least partiality, to banish the influence of money from the public courts, and to seize upon the mischievous attorneys. In addition to this, robbers, who might screen themselves under the amnesty before granted, ought promptly to meet with capital punishment, without time being given to refer the matter to higher tribunals, and thus to defer or elude the execution of their sentence; in fact, exemplary justice ought to be exercised with an uncompromising hand. The colonists being of dissolute habits, given over to drunkenness and every sort of debauchery, in which they spend their money and incur debts, laws ought to be issued against these crimes, and measures taken for the introduction of better customs. As it frequently happened,

that marriageable women, at the age of thirty, were without husbands, they ought to be prevailed on to enter the matrimonial state at twenty-five!

Some difficulty existed also regarding the shipping. The custom-house officers demanded fees to which they were by no means entitled; this put the people upon their guard, and made them desirous of introducing prohibited articles, in order to indemnify themselves for their losses. Such a state of things, says Luhchow, is by no means proper, and some alterations ought to be made in the regulations. There were crowds of colonists from Chaouchow, the eastern part of the province of Canton. These men, collecting in thousands at some places, and availing of the dread inspired by numbers, committed deeds of violence; this ought not to be allowed. Besides, every new colonist ought to prove that he has friends, into whose service he might enter to gain a livelihood; otherwise, he should not be allowed to settle, lest he might become an idler and a burthen to society.

A principle, which influences all the institutions of the Chinese government, is the promotion of schools. It is the firm opinion of every genuine Chinese, that without the cultivation of the mind a people cannot live happy, nor be obedient to their rulers. Luhchow, therefore, recommends, in the strongest terms, that instruction should be provided to the utmost extent, free-schools established, and high rewards held out to the successful literary candidates. The advice has not been neglected: the schools are in a flourishing condition, and the graduates very numerous. We have heard complaints, that the first and second degrees were too easily obtained; but if this be really the case, it is done to stimulate the students to persevere in their laborious task, in order to secure honor and obtain emoluments.

As most rebellions have taken their rise in the cupidity of the officers, our author recommends a reduction of the land-tax, and that legal exactions be as few and as light as possible. At the same time, he complains very much, that the officers being badly paid, have no means for maintaining themselves; and on this account, he says, the underlings commit great ravages upon the defenseless people. He therefore insists upon the clearing of new lands, the produce of which might be paid into the treasury for the maintenance of officers. Thus a constantly flowing stream of revenue might be opened, and the people would no longer be harassed with heavy exactions. At the conclusion of this hortatory document, the aborigines also come in for their share of attention. It appears, that, in former times, merchants were nominated by government to carry on the trade with the natives, as a monopoly. There were also linguists appointed to transact business with them. It has, however, been found out, that these persons, being actuated by fraudulent motives, cheated these ignorant people and gave rise to a great many disturbances; therefore they ought to be kept under very strict surveillance, and no occasion given for bringing forward complaints of injustice. In order to curb the power of the native tribes, the intercourse ought to be restrained as much as possible on both sides. Much care ought to be taken,

lest any Japanese or Dutch, landing on the east coast, might nestle themselves amongst them; 'a thing above all others to be avoided.'

We pass over several of Lulichow's remarks—as for instance, that the women ought to be employed in rearing the silk worms and planting hemp, to enable them to provide materials for the apparel of their families; that fortresses of better materials than mere bamboo and wood ought to be erected, &c. At another time we may again take opportunity of recurring to this author, because he is a man of sound sense, and tells us things for which we look in vain in other Chinese books.

ART. IV. *The Hawaiian Spectator; volume first, number first, January, 1838. Conducted by an association of gentlemen. Honolulu, Oahu, Sandwich Islands.*

THIS work has just reached us; an exhibition of what it is, will be its best recommendation. Its mechanical execution is not inferior to similar works in Europe or America. In style and matter, too, it need not shrink from a comparison with the best periodicals of the other hemisphere. The periodical literature of Asia and Oceanica is destined to rival that of Europe and America. These are new fields, and we know they are rich. We are sorry so few copies of the "Spectator" have come to China—ten only having been sent, not one third the number already subscribed for. We shall improve an early opportunity to notice some parts of the work—such as the 'Sketches of Kauai,' 'Decrease of population' &c.; but have room in our present number for only the prospectus, table of contents, and the introductory observations; these exhibit well the character and object of the

HAWAIIAN SPECTATOR.

This work is conducted by an Association of Gentlemen, and will be published quarterly at Oahu, Sandwich Islands. The work will be filled mostly with original matter on the following and other subjects.

I. The necessity of greater effort, in all its forms, to enlighten and christianize the world. Under this general subject, definite points will be discussed respecting the nature of the work—the obstacles to be overcome—the means of overcoming them, and the correction of such errors as exist in relation to the conversion of the world.

II. Importance and bearing of other efforts for converting the world, besides such as are generally termed missionary efforts; such as, a gradual change of their laws and political constitutions, to fit barbarous nations for practicing the religion of the gospel—the cultivation of the arts—the introduction of the usages of civilized life—a well regulated commerce—vehicles and means of rapidly and regularly conveying intelligence from place to place.

III. Intelligence respecting the geographical, political, moral, and religious, state of different sections of Polynesia, and the adjoining continents, with the good and evil that has resulted from communicating with foreigners.

IV. Philology generally—the genius and structure of the various dialects of the Polynesian language will claim special attention; and translations will be given of such articles in the native language as may be judged worthy of publication.

V. Scientific and literary intelligence respecting the geology, meteorology, botany, and other branches of the natural history of these islands, and other parts of Polynesia and the adjoining continents.

VI. An account of efforts now making to christianize, enlighten, and civilize, the islands of the Pacific—a full account of schools—of the efforts of the American Seamen's Friend Society—what progress has been made, and what remains to be done.

VII. A short space will be assigned to the current news of the islands, and such foreign intelligence as may be deemed interesting and useful; and also to obituary notices and biographical sketches.

VIII. The work will occasionally be enriched with engravings on copper and wood, illustrative of such subjects as may need illustration.

The whole influence of the work is pledged to the dissemination of truth and knowledge, and to the hastening of Christ's kingdom.

Conditions.—The work will be issued quarterly on the first of January, April, July, and October. Each number will contain from 96 to 112 pages, octavo; printed on good paper with a fair type.

The subscription price is three dollars, per annum; payable in all cases in advance. Communications for the work to be addressed to the care of P. A. Brinsmade, Oahu.

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Introductory Remarks.

THE *Hawaiian Spectator* will occupy an interesting position in the field of Periodical Literature. The range of its observation will embrace the whole extent of coast that borders the Pacific on the north and east, and the almost numberless groups of islands that are scattered through this vast ocean,—a geographical extent nearly equal

to one half the globe. Within these limits may be found every variety of climate and soil, the various sources of natural wealth, and all the elements of intellectual and moral greatness that are to be found in the other hemisphere.

The circumstance which gives peculiar interest to this wide sphere of observation, is, that all the illimitable resources embraced in it, physical, intellectual, and moral, are in the progress of developement. There is not a nation or tribe within the whole extent, that has yet made any thing like a complete exhibition of its natural capabilities, or settled upon any systematic direction of its active energies. No where is there an approximation to maturity in the arrangements of social order, or to permanency in the forms and institutions of civil government. The agitations of the political and moral elements, which have for the last few years been ebbing and flowing over the Western Republics of South America and Mexico, and which have filled an interesting page of modern history, have been for the most part superficial; and the current of events which has seemed, in passing, to have had a prospective tendency to the higher degrees of civilization, and to the establishment of free institutions and liberal principles, has not yet broken up the old foundations of military and ecclesiastical despotism. The virtue and intelligence indispensably necessary to give full scope to human activity and freedom, are yet to be realized and called into action throughout all these countries. The spirit of the age, the necessities of men, the onward movement of the world, are summoning up those indispensable moral and intellectual energies; and it will be matter of deep concern to notice the progress of their developement, and the results that may be consequently achieved, not only in the sphere of their immediate action, but to the world at large.

The western coast of North America, which has for years been the scene of active commercial enterprise, is now rapidly opening its facilities and inducements to civilized colonists and Christian philanthropists. The value of its hitherto unappreciated agricultural interests, is beginning to revive and push to a definite termination the questions of territorial limits, both on the north and south, between the governments concerned. Interests peculiarly weighty and lasting are involved in the adjustment of existing adverse claims—interests made more and more prominent by every movement in furtherance of Christianity and civilization in the Pacific. The civil and moral destiny of every portion of the vast territory between the rocky mountains and this western ocean, must of necessity be materially shaped by the government under whose jurisdiction it shall fall. That whole region of country cannot fail soon to be the theatre of measures and events, whose consequences upon the world will be as enduring as time. The prospect is full of exciting considerations, and every movement that may occur, either political or moral, will afford a subject of permanent interest.

Various regards, originated by commercial interest, political speculation, historical curiosity, or religious benevolence, have drawn

towards the coast and unnumbered people of Japan, the thoughts and inquiries of the civilized world. Almost all the purposes which control human pursuits are combining to effect an entrance into that and the adjacent prohibited portions of the globe, and there is a current of feeling setting upon those shores, proportionated probably in its force to the strength and obduracy of the barriers which have so long resisted foreign approach. Those separating walls of national pride or jealousy or selfishness, must, in the very necessity of things, sooner or later give way; and the present unparalleled stretch and energy of commercial pursuits, the prodigious improvements and facilities for international communication, and the awakening and expansive impulse of Christian goodness which mark the passing age, afford full intimations that the time is at hand. No measure of moral influence, great or small, direct or incidental, which can be made to further a salutary intercourse with other nations, and an effectual entrance for knowledge and truth, can be looked upon with indifference; for, whether that influence be borne along on the hum of a busy commerce, or in the lively oracles of grace and truth, so far as its tendency is to bring that large proportion of the human family into the community of Christian nations, so far it goes to augment the moral power and resources of a world redeemed to holiness and God. To whatever extent such influences, or the methods by which they may be conveyed, come under observation, they will be worthy of a most attentive notice.

It is now about three centuries since the discovery of Polynesia added to the world its sixth great division. The warm enthusiasm, with which the discovery was at first regarded, soon passed away; and till within a few years, little more notice has been taken of them, than that induced by considerations of curiosity or interest. Almost every successive year, new islands have been discovered, named, and their geographical position dotted on the chart; while the native inhabitants through their successive generations have been swept away by the wave of death, "alike unknowing and unknown." It can, however, never again be with this multitude of islands as it has been. Already there have been some valuable researches made through the more important groups, and the results given to the world. Some efforts have also been made to throw upon their midnight of intellectual and moral darkness the light of knowledge and truth. Here and there are stationed the living teachers of pure Christianity, and around them are beginning to be restored to the heathen the revealed principles of order and duty which are destined to pervade the world. The repeated visits of an extending commerce are bringing every tribe into more intimate contact with men of higher capabilities both of virtue and of crime, and there is now scarce a known island of these seas, that may not be easily opened to afford every desirable facility to the inquiries of the physiologist, or the philanthropy of the Christian.

We have taken this cursory glance around an almost new, and unspeakably interesting, portion of the world, to show the extent and

condition and prospects of a field of observation, in the centre of which we are providentially to stand spectators. With a local situation that affords facilities for concentrating intelligence, probably superior to any other spot in the Pacific, the purpose of our Journal will be, to gather from all the sources of information that may be opened upon us, and to combine correct intelligence upon the topics connected with the topographical, political, and moral geography of the islands of this ocean and its surrounding continents,—to afford a channel through which the facts that may be evolved in the various departments of natural history and science may be communicated to the world,—to furnish philological information relative to the genius and structure of the various dialects of the Polynesian language, and notices of native literature that may be originated in these dialects, in the progress of the means of education already in use or to be instituted,—to show the extent, facilities, and modes through which commercial enterprises may be conducted, and the means that may be put in operation to pour through the various channels of commerce a salutary moral influence, and the results realized from such measures,—to notice the forms of government that may be organized by the various islanders, and the relations and terms of intercourse instituted between them and foreign powers, and the tendencies of such intercourse upon the destinies of the weaker parties. It will also be our steady and prominent object, to furnish accurate and definite statements of the efforts in progress to enlighten, civilize, and Christianize, the benighted on the islands of the Pacific, and on the western continent of America, showing what has been accomplished, and what remains to be done; and from the deeply affecting view of the character and condition of the heathen in their remote alienation from their Maker,—a view derived from actual observation,—we shall earnestly set forth the imperative necessity for vastly greater efforts, in all their forms, than have yet been projected, to enlighten and redeem the world. We shall endeavor to throw light upon the nature of the work to be achieved, the obstacles to be overcome, and the means of overcoming them, and shall exert our last ability to correct and drive out of being the egregious errors which prevail in relation to the world's conversion.

A vast portion of the moral machinery which embodies the "power of God and the wisdom of God unto salvation," has not yet been brought into the field, nor do we see how it can be set in motion, while the views of heathen condition and Christian responsibility prevail, under which the present plan of operations is sustained and directed by the churches. Merely didactic lessons either in literature or religion, to beings who have been sinking for eighteen hundred years from the condition in which Paul described the heathen to be in his day,—could such lessons be taught by all the angels of light,—would never effect the moral revolution of the world contemplated in the prayer of its Redeemer, "Thy will be done on earth as in heaven." There is not a spot within the broad survey we have taken, where religion, as God has revealed it, could be practiced in its high-

est and noblest and unrestricted exercises, until other influences than those of preceptive instruction, shall be brought into action. Improvement in the employment of physical agencies is the cue of the age; and yet the last improvement that the combined ingenuity of men shall arrive at will act upon the springs of nature as the Creator formed them. And why should men, moving under God's commission in achieving the world's conversion, shrink back with awe from attempting improvements in the use of moral agencies, when the final discoveries of every finite mind will only disclose the omnipotent energies of a moral engine, whose adaptation to its end reveals a "God over all blessed forever?" There is no reason why. The condition of guilt and woe and death, in which most of earth's millions are, without it, hopelessly involved, demand the attempt, and our Savior's last law of love, "Go teach all nation," adds to that demand the authority of all heaven.

With this brief view of the field from which it is expected that the subject matter for our pages will be derived, and this general statement of the topics proposed to be illustrated, we commend our work to the literary countenance and coöperation of those scattered over the wide field, whose opportunities of observation and research will enable them to contribute to its interests, and to the pecuniary patronage of those in every land who may favor our purpose.

ART. V. *Translation of a letter from Syed Bin the sultan of Muscat, to the president of the United States of America.*

IN THE NAME OF GOD AMEN.—To the most high and mighty Andrew Jackson, president of the United States of America, whose name shines with so much splendor throughout the world. I pray most sincerely that on the receipt of this letter it may find his highness, the president of the United States, in high health, and that his happiness may be constantly on the increase. On a most fortunate day and at a happy hour, I had the honor to receive your highness's letter, every word of which is clear and distinct as the sun at noonday, and every letter shone forth as brilliantly as the stars in the heavens. Your highness's letter was received by your faithful and highly honorable representative and ambassador Edmund Roberts, who made me supremely happy in explaining the object of his mission, and I have complied in every respect with the wishes of your honorable ambassador, in concluding a treaty of friendship and commerce between our respective countries, which shall be faithfully observed by myself and my successors, as long as the world endures. And his highness may depend, that all American vessels, resorting to the ports within my dominions, shall know no difference, in point of good treatment,

between my country and that of his own most fortunate and happy country, where felicity ever dwells. I most firmly hope that his highness, the president, may ever consider me as his firm and true friend, and that I will ever hold the president of the United States very near and dear to my heart, and my friendship shall never know any diminution, but shall continue to increase till time is no more. I offer, most sincerely and truly, to his highness the president, my entire and devoted services, to execute any wishes the president may have within my dominations, or within any ports or places wherein I possess the slightest influence.

This is from your most beloved friend

SYED BIN SULTAN.

Written on the twenty-second day of the month, Jamada Alawel, in the year al hajra, 1249, at the royal palace in the city of Muscat.

This letter is to have the address of being presented to the most high and mighty Andrew Jackson, president of the United States of America, whose name shines with so much brilliancy throughout the world.

[*Note.* We have inserted the foregoing letter by the request of a friend. The treaty with the sultan we have not seen. The narrative of Mr. Roberts' mission has been published in America, we suppose, long before this time.]

ART. VI. *Ophthalmic Hospital at Canton: Seventh Report, being that for the term ending on the 31st of December, 1837.* By the Rev. PETER PARKER, M. D.

Two years of this institution are now completed. During this period 4575 patients have been received, 1225 of whom have been admitted during the last term. Besides these, a number of old patients have been treated, who had relapses, or new diseases. This report includes the period from the 4th of May to the 31st of December, of which two months were spent in a voyage to Japan, and subsequently illness caused a suspension of the operations of the hospital for another month. It was reopened on the 1st of October, when it appeared, that a considerable number of patients, who had come a long distance, had taken up their residence in the city, and had waited, some a fortnight, and others a month or more, for the opening of the hospital.

The expenses for the current year are \$1,692.24, viz.:

For native assistants - - - - -	\$341.21
For medicines, instruments, &c. - - - - -	543.33
For board, fuel, &c. - - - - -	261.80
For repairs - - - - -	45.90
For rent. - - - - -	500.00
	\$1,692.24

N. B. The donations to the hospital are included in the acknowledgments of the contemplated Medical Missionary Society, whose organization, unanticipated causes have delayed.

Diseases presented both during this quarter and since the beginning of the institution; 1st, of the eye; 2d, miscellaneous.

1st. Diseases of the eye.		*	†			*	†
				Double vision - - -		2	2
Amaurosis - - -	33	145		Injury of the eyes - -	3		2
Acute ophthalmia - -	74	336		Atrophy - - - - -		62	
Chronic ophthalmia -	125	380		Hypertrophy - - -	3	17	
Purulent ophthalmia -	23	111		Hydrops oculi - - -		2	
Scrofulous ophthalmia -	1	3		Complete loss of one eye	110	231	
Rheumatic ophthalmia	1	8		Loss of both eyes - -	91	199	
Ophthalmitis - - -	6	35		Mucocele - - - - -	4	18	
Ophthalmia variola -		29		Muscæ volitantes - -	8	19	
Choroiditis - - -	3	7		Weak eyes - - - - -	5	23	
Conjunctivitis - - -	4	40		Xeroma - - - - -	5	7	
Granulations - - -	100	100		Malignant ulcer of the			
Hordeolum - - - -	2	28		upper lid - - -		1	
Cataract - - - - -	118	382		Encysted tumor of the			
Entropia - - - - -	215	526		upper lid - - -		6	
Ectropia - - - - -		2	8	Tumors from the con-			
Trichiasis - - - - -	16	81		junctiva - - -	3	3	
Pterygium - - - - -	90	271		Quivering lids - - -	1	3	
Panitis - - - - -	5	5		Adhesion of the conjunc-			
Opacity and vascularity				tiva to the cornea	1	9	
of the cornea - - -	60	472		Adhesion of the tarsi -	1	1	
Ulceration of the cornea	10	89		Disease of the carun-			
Nebulæ - - - - -	100	271		cula lachrymalis -	6	12	
Albugo - - - - -	7	138		Fungous haematodes -	1	5	
Leucoma - - - - -	4	27		Nole me tangere - -	1	1	
Staphyloma - - - -	48	177					
Staphyloma sclerotica -	3	15		2d, Miscellaneous.			
Onyx - - - - -	3	18		Abscess of the ear - -	1	10	
Iritis - - - - -	8	53		Abscess psoas - - -	1	4	
Ptosis - - - - -	2	2		Abscess of the thigh -		2	
Lippitudo - - - - -	60	151		Abscess of the parotid			
Night blindness - -	2	8		gland - - - - -		2	
Day blindness - - -	1	4		Abscess of the arm -		2	
Synechia anterior - -	24	69		Abscess of the hand -	1	3	
Synechia posterior -	8	32		Abscess of the head -	4	6	
Myosis - - - - -	15	53		Abscess of the face -	2	7	
Closed pupil with depo-				Disease of the lower jaw	2	11	
sition of lymph -	3	46		Luxation of the lower jaw		1	
Procidencia iridis - -	7	22		Otitis - - - - -	1	2	
Glaucoma - - - - -		9		Otorrhœa - - - - -	2	24	
Exophthalmia - - -	1	5		Deficient cerumen -		9	
				Deposition of cerumen	2	8	

* Aggregate for the term.

† Aggregate for the two years.

Malformation of meatus		2	Aphonia - - - - -	1	1
Imperforate auditory foramen - - - - -			Pneumonia - - - - -		4
Deafness - - - - -	2	20	Ichthyosis - - - - -	1	5
Nervous affection of the ear - - - - -			hereditary - - - - -	2	
		8	Herpes - - - - -	1	5
Polypus of the ear - -		1	Impetigo - - - - -	3	5
Dropsy - - - - -	1	25	Psoriasis - - - - -	1	1
Ovarian dropsy - -	3	11	Acne - - - - -	1	1
Cauliflower excrescence of the uterus - -			Burn - - - - -	1	1
Hydatids of the uterus		1	Disease of the antrum maxillare - - -	1	5
Scirrhus of the uterus -		1	Diseased gums - - -	1	3
Amenorrhœa - - -	1	4	Hare lip - - - - -	5	6
Cancer of the tongue -	1	1	Opium mania - - -	2	15
Cancer of the breast -	3	10	Paralysis of the arm -		2
Cancer of the face -	1	4	Hydrocephalus - -		2
Goitre - - - - -	5	15	Dyspepsia - - - - -	3	6
Ranulae - - - - -	1	5	Urinary calculus (removed 3) - - -	3	7
Enlarged tonsils - -	1	3	Stone in the bladder -	2	5
Polypi of the nose (benign) - - - - -	1	7	Deaf and dumb child -	1	5
Polypi of the nose (malignant) - - -			Dumbness - - - - -	1	7
Obliteration of nares -	2	2	Hepatitis - - - - -		3
Polypus of the ear - -		1	Fungous hæmatodes -	1	6
Hernia inguinal - -	2	7	Ulcers - - - - -	3	11
Hernia umbilical - -	1	4	Needle thrust into the body below the sternum		1
Chronic cystitis - -		1	Needle thrust into a child's hand, &c.-		1
Enlargement of the spleen	4	7	Double thumb - - -	3	5
Abdominal tumors - -	3	7	Aneurism - - - - -	2	2
Encysted tumors - -	2	11	Wart filling one nostril	1	1
Sarcomatous tumors -	5	25	Worms (Lumbrici) -	2	6
Tumors from each ear	5	5	Hæmoptisis - - - -	1	1
Curvature of the spine	6	9	Rheumatism - - - -	2	4
Curvature of the ankle	1	1	Arthritis - - - - -	5	5
Paraphlegia - - - -		2	Hydrops articuli - -		5
Phymosis (natural) -		3	Palpitation of the heart	2	2
Paraphymosis - - -	1	1	Thrush (ulcerated mouth and lips) - - -	2	2
Fistulæ in ano - - -	1	6	Diabètes melitis - -	1	1
Tinea capitis - - -	1	4	Caries of tibia - - -	1	1
Scrofula - - - - -	6	13	Epilepsy - - - - -	2	2
Enlargement of parotid gland - - - - -	2	5	Elephantiasis - - -	2	4
Asthma - - - - -	1	3	Enteritis - - - - -	1	1
Croup - - - - -		1	Disease of the heart -	1	1
Bronchitis - - - - -		1	Distortion of the hand from small-pox -	1	1
Bronchial flux - - -		1	Whitlow - - - - -		2
Phthisis - - - - -		1			

No. 3320. May 1st. Artificial joint of the forearm. Chay Ahing, aged 27, of Canton. Eleven months ago he fractured the radius and ulna of his right arm. An artificial joint had been formed, which admitted inward motion to an angle of perhaps 60°: it was without pains or tumefaction. On the 27th May, the ends of the fractured bones were grated upon each other for some minutes. The arm was then extended and the bones brought into their proper place, and confined by splints and a roller. The following night the patient complained of much pain, and urged the removal of the splints. They were continued, however, for three days, when, to his great delight, the bones were united and the arm was straight. Short splints were then substituted, leaving the hand and wrist free. These were worn two months more. The man has now a useful right arm.

No. 3362. May 12th. Injury from torture. Aching, a gardener in the vicinity of Canton, was accused by an envious relative to the government, as a smuggler and concealer of stolen goods. Accordingly he was seized, and kept in the city a fortnight, sitting at the door of an officer, as a culprit, and in the mean time was examined by torture, made to kneel on sharp spikes, and beaten upon his face and above his knees and ankles, in a most cruel manner. His foreteeth were knocked out. Twenty persons of his native village coming forward and testifying to his upright character, and offering their own heads if he could be proved guilty, the innocent and industrious poor man was liberated, but not till after he had paid \$300! His ankles and knees were in an ulcerated condition from the previous application of the bamboo. The wounds presently healed, and the man is again well. This case illustrates the *baseness* of his relative, and the *cruelty and injustice* of the officers of government.

No. 3488. May 22d. Cartilaginous tumor. Woo Pun, aged 41, a shoemaker of Pwanyu, had been afflicted seventeen years with a large unshapen tumor upon the left side of his neck. It hung pendulous from the submaxillary, extending backwards over the external jugular vein and carotid artery, forwards to the opposite side of the trachea, and downwards to the breast. For the last ten year its growth was rapid; and from its magnitude it had become very cumbersome. It was as large as the man's head, and so hard as not to yield to the pressure of the thumb. Centrally it was diseased, and having been perforated by the escharotics of a Chinese practitioner, it emitted a most offensive discharge. The aperture was half an inch in diameter, and as regular as if formed by a drill. The patient kept it closed with a stopple, every morning evacuating some ounces of offensive fluid. His constitution had begun to suffer. On the 19th June, assisted by Messrs. Cox, Cullen, and Jardine, the tumor was removed in about five minutes. Several veins of considerable size were divided. In making the inferior horizontal incision, an inch of the integument, above a large superficial artery, was not divided till the dissection of the tumor was nearly completed, and then, by compressing the artery before dividing it, very little blood was lost. The tumor was two feet in circumference, and weighed 7 lbs. The patient scarce uttered a

groan. In twenty minutes he was comfortable in bed. This was about 1 o'clock P. M. At 3 o'clock and at 5 o'clock his symptoms appeared favorable; and there was but little oozing of blood. At 9 o'clock he complained of phlegm in his throat, and did not breathe so easily as usual, yet made no complaint that the bandage was too tight. His brother was depended upon to watch with him, and to call me, if any change occurred. At 1 o'clock A. M., a servant called; and when I arrived at the hospital the poor man was apparently gasping his last. He was very bloody, and had evidently made a desperate struggle without success to loosen the bandage. The neck was instantly freed of the roller. His pulse was just perceptible; his extremities were already cold; he foamed at the nose, and breathed stertorously, as in apoplexy. His mouth was immediately cleared of phlegm, and his nose of blood; stimulants were applied and also administered internally, and bottles of warm water put to his feet. He soon revived and spoke, and his breathing became easy.

The dressing was loosely applied at first, but the incision being rather horizontal, nearly from ear to ear, the blood that settled upon the lower side, not escaping, acted as a wedge, causing suffocation. Probably the brother fell asleep, and awoke only by the almost dying struggle of the patient. Two or three minutes delay in coming to his relief might have been too late! After reapplying the dressing, he had a comfortable night, and in one month was perfectly recovered. He has repeatedly visited the hospital. His constitution has wonderfully recovered from the inroads of the disease, and he again enjoys excellent health, and evinces unbounded gratitude. He seems to regard the favor received, as conferring on him full liberty to introduce any and all his diseased friends. This is very uniformly the case with such as have received any especial benefit. I know not upon what principle of human nature to explain it, unless it be that of implicit confidence.

No. 3556. May 22d. Scirrous breast. Mo She, aged 48, of Pacheow, near Whampoa, an artificial flower maker, had been afflicted with a cancerous breast for six years. The diseased gland was about four inches broad, six long, and two or three thick. She had long experienced lanceonating pains. There was some enlargement of the veins, and the part nearest the axilla was soft and just ready to burst. The axillary glands were not affected. The patient complained of pains in the region of the kidneys. The tongue was a little foul, and the pulse natural.

On the 21st of June, the breast was removed. The adhesion of the integument to the gland, protracted the operation to twenty minutes, which the patient endured with the fortitude characteristic of her sex. Her husband and son were present, who commanded their feelings remarkably, and spoke cheeringly to their suffering friend. The most painful sensations were caused by dividing the nerves at the base of the gland. Considerable febrile symptoms occurred the following day, but they soon subsided. She rapidly and perfectly recovered, and on the 1st of August was discharged. In October she returned

in good health. This is the first instance of the extirpation of the female breast from a Chinese, and few operations could exhibit in a stronger light their confidence in foreign surgery, yet it was submitted to with the utmost cheerfulness, both in this case and another hereafter to be noticed.

No. 3763. June 19th. Ascites. Wang Yuen, aged 23, a weaver, had had an accumulation of fluid for four years: cause not ascertained. The abdomen was about six feet in circumference. On the 21st of June, in the presence of several medical gentlemen, twelve gallons of fluid were drawn off, weighing sixty catties, equal to eighty pounds avoirdupois. After the water was discharged and the walls of the abdomen collapsed, the liver, stomach, heart, and uterus, were felt distinctly. The ribs and sternum were spread out of their natural position, forming an immense cavity, bounded by the diaphragm and natural integument. This was filled with cotton pledgets, and a bandage applied around the thorax and abdomen, which was tightened daily, gradually bringing it to its natural place. It seemed incredible that, with such a bulk and weight, the young woman could walk at all, especially as her feet were as much too small as her body was too large. It required some practice, after its removal, before she could walk comfortably alone. She appeared in health, independent of this immense reservoir of fluid. She experienced no inconvenience from the operation, and in one week was discharged. Since my return from Japan, she has visited the hospital, and was in fine health. She was so altered that it was necessary to refer to the records of the hospital to identify her. There is no reaccumulation.

No. 3790. June 19th. Sarcomatous tumor. Yang She, aged 20, of Hwayuen, had a tumor pendulous from the chin and larynx. It commenced ten years since, and the last six years had been very cumbersome. The attachment beneath the chin was five inches in circumference. Centrally and horizontally it measured two feet three inches, and vertically three feet two inches. It extended below the umbilicus, but not so as to rest in the lap; consequently its weight was sustained by the attachment, and the patient had to sit constantly in a bracing posture, to prevent its drawing down her head. The natural features were distorted, the cheeks being drawn tense by the weight of the tumor. The muscles on the back of the neck were preternaturally large, having been in constant action. A native practitioner had applied a ligature which remained sufficiently long to produce a permanent circular scar. Probably, while the ligature interrupted the return of the blood in the veins, it did not compress the arteries, nor benumb the nerves: the pain must have been great and the result doubtful, had the destruction of the tumor been effected.

Being in her fifth month, her case was the more critical. It was at this time determined to take a voyage to Japan; but whether she was apprized of this or not, and feared I might not return, she and her friends were urgent to have the tumor removed then, though the objection to it was distinctly stated. Perceiving the confidence of the patient and anxiety of her friends, with the approbation of several

medical gentlemen, I complied with her wishes; and on the 21st June, the tumor was removed in 12 seconds, and the patient dressed and in bed in 24 minutes. Two arteries of considerable size required ligatures; the veins upon the lower side were very large, exceeding the natural size of the jugulars; the skin, fasciae, veins, and arteries formed the principal attachment. With the exception of a single point, an inch in diameter, the tumor was as distinct from the surrounding parts, as an egg from its nest.

Seldom has there been less apparent suffering from so serious an operation, as there was manifested by the young woman. The wound healed kindly without any unpleasant symptoms. Her first attempts to walk were awkward, having lost so much 'ballast.' In one week the healing process had far advanced, when, at my departure from Canton for Japan, Messrs. Cox and Anderson, resident physicians, most obligingly took charge of her and the preceding cases, and such others as were in the hospital, and required attention: they have also continued their assistance on each day for operations, weekly. In seventeen days she was discharged quite well. December 17th, she returned, in excellent health and spirits, bringing her robust little son, two months old. Her features have assumed very much their natural form.

On the 14th October, her grandfather returned to inform me of her health, bringing some trifling presents, with the following note accompanying them.

"The autumnal marigold emits its fragrance and reflects its fresh tints, whilst I bring some trifling articles to repay your kindness, for having, by your deep skill, restored my grand-daughter to health. May your name, sir, be transmitted to posterity for a thousand ages, and may the benefits bestowed last ten thousand years! My whole family join with me in wishing you the enjoyment of happiness, and that you may be permitted, by your extraordinary practice, to assist and protect mankind. I beg you will receive this present with a smile. Yung Yute of Hwa heën, knocks his head and pays his respects."

No. 4016. Extirpation of scirrous breast. Woo She, aged 43, of Whampoa, was introduced by Mō She, to be treated for the same affection, of which she herself had been relieved. Woo She had had a scirrous enlargement of the left breast for three years. It was about the natural size of a full breast of milk. The tumor was well defined and strictly a local affection. Her constitution was perfect.

On the 1st of November the breast was removed in eight minutes, and the patient in bed in twenty. Her fortitude exceeded all that I have yet witnessed. She scarcely uttered a groan during the extirpation, and before she was removed from the table, clasped her hands, and, with an unaffected smile, cordially thanked the gentlemen who assisted on the occasion. The breast consisted of masses of gelatinous matter, surrounded by dense cartilaginous substance, which, at the base was nearly ossified, quite beyond the power of medicine, *iodine* not excepted, to remove. She experienced comparatively little inconvenience during her recovery. The edges of the wound healed

chiefly by the first intention, but there was some suppuration of the parts beneath. An attack of dysentery upon the 10th day impeded the healing a little, but she soon recovered from it, and in about four weeks was discharged perfectly well. The natural amiableness and cheerfulness of this woman and her little daughter, twelve years old, attracted the attention of many who visited the hospital during her stay. *Surely, natural sweetness of temper exists in China.*

No. 4142. October 23d. Hare lip. Lo Asan, aged 8, of Heäng-shàn, a very interesting and intelligent girl, the idol of her wealthy parents, who would not have withheld any moderate sum, had it been necessary, to remedy the unpleasant malformation. The division of the lip and roof of the mouth extended up into the nostril. The operation was successful. The second and third days, she had a considerable fever; as this subsided, the wound healed rapidly and perfectly in ten days. Her friends were greatly delighted, and sent presents of tea and fruits of various kinds, and a valuable crape shawl. These were declined in vain. "They are not for pay, but an expression of gratitude." Four persons were in constant attendance upon this little girl. She was amused by a pack of arithmetical cards, with red and black dots on them, by which she learnt to add and subtract. She answered any question upon these cards, almost instinctively. Four operations for the same defect, have been performed during the term. In two instances, several teeth and a portion of the palate, were removed. In one case the patient was discharged quite well in one week.

No. 4186. Nov. 20th. Steatomatous tumor. Yuen Aking, aged 35, of Kaouyaou, had a tumor on the left side of his neck, originating near the vertebræ, and passing out between the scaleni muscles; it was partially covered by the trapezius. It had attained a troublesome magnitude, nearly spherical, and six inches diameter, and was yearly increasing. November 29th, the tumor was extirpated. A portion of the anterior edge of the trapezius was necessarily removed, and also of the scaleni muscles. The tumor lay between successive layers of muscular fibres and fasciæ, which became more indistinct as they approached its centre, several of the transverse processes of the cervical vertebræ were exposed, covered only by the tendinous aponeurosis of their appropriate muscles, when the tumor was removed. The wound kindly healed by granulations in five weeks. There was much suppuration from the division of the muscles. The removal of the tumor affects slightly the raising the tip of the shoulder, and the bringing the hand over the head. The patient became quite robust, and left a few days since, with the most unequivocal manifestations of gratitude.

No. 4370. Staphyloma. Yě Maouchang, a youth of 16, had lost his right eye entirely, and had also a staphyloma of the left. A part of the cornea protruded so far as not to be covered with the lids, yet a portion was clear and admitted light. He was introduced by a hong merchant with a particular request, that, if it were possible to benefit him, he might be treated. He was encouraged to expect the eye

might be reduced to its natural size and the degree of sight still be retained. With this, he and his friends were satisfied to have the operation performed. The staphylomatous part was removed, the aqueous humor only escaped. The wound soon healed, the eye came to its proper size, and the vision was increased rather than diminished. His uncle, a literary gentleman, remained with him until he was nearly well, and, on leaving, presented two scrolls, on which he had written some account of the case, with a stanza of poetry. The scrolls are about four feet long, and ten inches wide; and the poetry is written in large characters in the middle, perpendicularly, with the explanation on each side of it. The following is a translation, which may be interesting as a specimen of Chinese taste and customs. The comparison between the celestial luminaries, appearing from behind the clouds that had concealed them, and the blind restored gradually to a sense of light, is happy.

“Dr. Parker, of the flowery-flag nation, sailed over the ocean, and came to Canton, with healing medicines. All men feel gratitude towards him. My nephew, Yě Maoushang, had been blind ten years. With a metallic instrument, he opened his eyes, and gradually restored vision. Therefore I have prepared these scrolls to record his deed.

(Signed) Chang Kwōkin of Lingkang.

“The clouds and vapors rolling off,
Quickly appear the sun and moon.—
His art's true badge, the knife, he grasped,
And therewith op'd the way to sacred light.”

Death from Epilepsy. Aking, 38 years of age, of Koauyaou, was found nearly dead in the street. He had been in an epileptic fit three hours when I saw him. Many hundreds of his countrymen had seen him, but all ‘passed by on the other side.’ After explaining to the by-standers and one of the police, the nature of the case, and the uncertainty of his recovery, judging from his symptoms, I offered to take him to the hospital, provided his body should be removed without trouble in the event of his death. This was acceded to. The usual treatment in similar cases was adopted. The severity of the paroxysm was soon mitigated, and in fourteen hours he had so far recovered his senses that he was able to give intelligent answers. In a short time, some of his friends came and expressed grateful feelings for the care taken of him, but soon left, though requested to remain with the sick man. The next day a brother came, who said he had been subject to these attacks for about a year, and that they usually lasted twelve hours. Upon the second and third days he had some fever; on the fourth and fifth, he was able to walk about the house, and to take congee, and his recovery was expected; but a few hours after my leaving the hospital on the fifth day, he had a relapse and died suddenly. His brother and friends came the next morning, and were grateful for the care bestowed on the deceased. A rude coffin was soon provided, and without change of apparel he was borne to his rest in the grave.

No. 4565. A second instance of death occurred, in the case of a young woman, aged 27. Her own account of herself was briefly as follows. She had not enjoyed good health since the birth of her first child, two years since. More than a year ago she had a small swelling of the size of a duck's egg, just beneath the false ribs, on the right side, and at the same time commenced a curvature of the spine. In May last, an abscess formed in the lumbar region, which burst of itself. The discharge was great at the time, and since. When she came to the hospital, her case appeared liopeless, but her emaciated form, and the affecting narrative of her sufferings, early bereft of her father, enlisted my warmest sympathies, and I could not at once extinguish her last hope of recovery. She was told that she might remain a few days, when her case should be fully explained. Shortly the high fever, which she had had daily, subsided; the abscess was attended to; and tonics were administered; and she was gradually improving. But about ten days afterwards, I was called to her, early one morning, when, to my surprise, I found her dead in the arms of her mother. The parent was not aware of the fact, and was told that her daughter had better be laid on the bed. After reminding her that all must die, and that the Supreme Ruler would decide as to the best time, I informed her that her daughter was dead, and requested she would not yield to excessive grief. She commanded her feelings remarkably, and calmly said, her 'destiny is fixed.'

The deceased was a young woman of extraordinary intelligence, and unlike the majority of her sex in China, had read much. She was a dutiful child, and said that her desire of life was chiefly that she might provide for her parent.

The following are a selection of *incurable diseases*, which have been presented at the institution.

No. 3438. May 22d. *Aneurism*. Choo Akwei, a young man 20 years old, of Manchow in Pwanyu, has an aneurism of the superscapularius and subclavian arteries. It commenced five or six years since. At first, a slight tumefaction, widely diffused over the scapula of the left shoulder, was perceived. The aneurismal tumor is now two feet in circumference, at the base, and eight inches in its smallest transverse diameter. The pulsation is distinct in every part of it. Ignorant of its character, the native physician had applied escharotics, and nothing but the great thickness of the skin on the back, preserved the man from the fatal consequences of so rash an expedient. The rush of blood from under the clavicle is fearful, especially when heard through the stethoscope. The passage of the blood is also very distinct to the touch. Pressure above the clavicle interrupts the pulsation in the tumor, which becomes sensibly smaller by continuing it a few minutes. It is impossible to determine the extent of the disease. Apparently, it extends along the subclavian till it is lost beneath the sternum. It appears as though this artery were dilated to the diameter of an inch or more. Under these circumstances it has been deemed judicious and humane not to interfere. The patient is of a slender constitution, his pulse is about its natural frequency but irregular, as is also the action of the heart.

No. 4099. October 23d. Elephantiasis. Tang Pahe, aged 25, has elephantiasis of the left leg, which, from the knee to the ankle, is nearly of a uniform size, and its average circumference about two feet! The young man enjoys good health, and his only suffering is from its great weight. It is but a few years since it began.

No. 4503. December 18th, a similar case of elephantiasis presented. Wang Teenpwan, 26 years old, a student from Sinning, came a journey of 21 days, to ask advice. He had been troubled, some years, with an enlargement of the left leg, which, from the knee to the ankle, was from 2 feet to 30 inches in circumference. The disease in this case seemed to be confined to the integument, and formed a large cylinder, freely moveable about the muscles and parts beneath. The motions of the leg were perfect.

Several patients with *enlarged spleens*, of a very aggravated character, have appeared. I am inclined to think, that affections of this class are numerous in China. In some instances the spleen entirely filled the abdomen. Partial benefit has been conferred in a few cases, but the long treatment required under the most favorable circumstances, much exceeds the perseverance of the patient.

Abdominal tumors. As the benefit of autopsy cannot be had in China, we cannot speak definitely of this class of diseases, which is most frequent in females. Some of these, also, filled the abdominal cavity, and much distended its parietes.

Scrofula, as might be expected from the filthy habits, and improper diet of some of the Chinese, is common, and sometimes exhibits itself here in its most frightful forms, affecting all the glands, the head, and indeed, the whole system, particularly the joints.

No. 4572. December 18th. Fungous haematodes. Tseë Ching-ho, 61 years old, a native of Nanhae, has a fungous haematodes of the left eye and face. Six months since it began with inflammation, and pain of the eye, which soon protruded so as to prevent the closing of the lids. Its expansion over the face now forms a disk six inches by four. There is a similar excrescence starting from the cheek beneath it, just over the antrum. Several others, not yet through the integuments, are starting out of the left cheek, and a small one from the nose.

A few minor operations may be here briefly noticed. Two young women had tumors, pendulous from each ear, in one case half an inch in diameter, and in the other an inch and a half. These were occasioned by heavy metallic earrings. Four or five similar cases have occurred, and the tumors have been removed, without destroying the natural shape of the ear.

A respectable young lady, 18 years old, from the city, had a small tumor in an ulcerated state upon the crown of the head. Unwilling, at that age particularly, to come to the hospital, her father requested me to meet her at the house of a friend, just without the city. She was prevailed upon to have it removed at the hospital. In one week the tumor was quite well.

A second encysted tumor, of the size of a hen's egg, upon a man's head, just above the mastoid process, has been removed; and a third, from a man 46 years old, situated below the left ear, rather deep-seated. There was a fourth case also, a lad, 16 years old, who had a sarcomatous tumor, four inches long, and two broad, attached by a loose peduncle of an inch in diameter, which was situated just below the left ear. These were all removed and the patients speedily discharged.

An unusual number of cases of ascites have presented. Besides the one above named, the following may be noticed.

No. 4173. Lesingyaou, a Tartar, who is connected with the hoppo's office, was relieved of 28 catties of limpid fluid. No. 4270. Lew Ayuen, aged 61, of Taelieh, had between five and six gallons of chocolate-colored fluid in the abdomen. After discharging it, a large and hard tumor was found, apparently originating from the liver. It was not very tender to the touch.

Here I close the review of the institution, during its two years existence. Of the 4575 patients that have been received, many are remembered, as well as their deep solicitude, and that of their friends as they have waited to know their prospects, and their joy when they have been relieved. The recollection of hundreds that will never more see light, has revived the sorrowful sensation previously felt. They were too late. Some of the latter class were just entering upon life; they were in perfect health, but, for the want of timely assistance, the orb of light has been to them early and totally extinguished. There is some mitigation, however, in the reflection, that, whilst various surgical operations have been performed, through the *divine blessing*, none have proved fatal; that many young persons have been saved from a life of blindness, and that others have regained the vision actually and (without some kind interposition) forever lost. It has often been delightful to witness parents again enjoying the sight of their children, whose prattlings and blooming countenances had never more greeted their eyes, had not the cataract been thrust aside. From many, those protuberences and incumbrances, which rendered their possessors monsters, and life a burden, have been successfully removed. The cancer, threatening its victim with death, has been once and again extirpated from a mother's bosom. The misplaced, and in some instances large, reservoirs of useless and cumbersome fluid, have been dried up, and health has again smiled upon the previously despondent sister and parent. To these results, the friends and benefactors, who have so promptly sustained the institution, are referred as their best reward, whilst the most grateful acknowledgments are tendered them, in behalf of the thousands whom their charity has benefited. Especially thanks are due to the medical gentlemen, who have repeatedly and so cheerfully lent their important aid, particularly to Messrs. R. H. Cox, and A. Anderson, who have continued their valuable assistance each week upon the day devoted to operations. And also to William Jardine, esq., who, notwithstanding he has long ceased from practice, retains all his interest in his former profession, and, even in the pressure of business in one of the largest commercial houses

in Canton, has ever found leisure to attend to the calls of suffering humanity. Facts are constantly occurring, which show the increasing confidence of the Chinese in foreign surgery, and the widening extent to which the knowledge of the operations has spread. As illustrative of the former, Howqua, the senior hong merchant, has presented \$300 to the institution; and in proof of the latter, numbers have come journeys of several weeks to avail themselves of its benefit. A district magistrate from the province of Hoopih, in the interior of China, has come a journey of six weeks to be treated for blindness, and is now an inmate of the hospital.

The importance of training young men for the medical profession in China was early felt, and I am happy to state, that three youth, of good promise, of the ages of 16, 17, and 19 years, are now connected with the hospital. They have already made respectable proficiency in the English language, and are of valuable assistance in compounding medicines and administering the prescriptions. The eldest is a responsible and active youth, and besides his tuition, receives \$5 per month wages. Some minor operations upon the eye, as for entropia and pterygium, he has dexterously performed: he has served now more than a year. The second is the farthest advanced, of the three, in his own language, having been designed for a literary life, till the death of his father (who held an office in government), more than a year since, deprived him of the means of pursuing his studies. He is partly sustained by the Morrison Education Society. The third, who is a young man of good talent, is wholly supported by his father, and is to remain at least five years.

I cannot close this report, without adverting to another circumstance, not the least interesting to those who have at heart the best welfare of this empire. I refer to the opportunities constantly presented of exhibiting the spirit and principles of our most holy religion, of frequently pointing out to them the consequences of vice, and of inculcating principles of temperance and morality. Seasons peculiarly favorable occur of showing them the vanity and falsity of idols, and of making them acquainted with the true God. And these advantages will increase, as our knowledge of their language and religion increases, and as we are advanced in their confidence and obligation.

ART. VII. *Tsze Puh Yu, or Not the Sayings of Confucius: a Chinese book of stories; in eight volumes; without date.*

STRANGE and marvelous tales, feats of chivalry, acts of rebellion, and the conduct of the gods, were four classes of subjects on which Confucius never conversed: at least, so it is boldly affirmed by one of his disciples. His successors, however, who have lived in less virtuous times, have not been so circumspect in their writings, as

their great master was in his conversation. Probably, works of fiction are more numerous, voluminous, and varied, among the Chinese, than among any other people in the world. For the present, we will not attempt to canvass their merits, nor institute any comparison between these and similar productions in the western hemisphere. Sure we are, that if Cervantes, Lesage, and their compeers, were introduced to any valiant son of Han, he would not hesitate to declare that China has, or has had, their equals—nay their superiors. These writings are called, by the Chinese, *Scaou Shwō Shoo*, 'Books of Small Talk,' a term equally appropriate, perhaps, as that of Novel or Romance. The whole number of stories in the *Tsze Puh Yu*, is above seven hundred: the following, and others like them, are the themes of these stories, which are 'not the sayings of Confucius:' viz.: ghost of a fortune-teller, a stolen thunder-bolt, the literary fox advising men to become fairies, elves begging fish, the man with three heads, the devil turned matchmaker, a pig acting the priest of Taou, the enchanted tower, the ass of a Mohammedan lady, a demon buying children, Vulcan's tongs, &c. This book of stories has been brought to our notice by a resident sinologue—a lad twelve years old, who has been engaged in studying the language about fourteen months. The subjoined translations were made by him, and may serve as specimens of his scholarship, and of Chinese books of small talk.

The Sagacious Pig. In the district of Suhchow in Keängnan, a man was murdered and his body thrown into a well. One of the officers, having long sought in vain for the murderer, was riding by the well one day, when a pig came before his horse and set up a most bitter cry. His attendants, not being able to drive the pig away, the officer said to them, what does the pig want? Whereupon the pig kneeled before him, and made the *kow-tow*. The officer then bid his attendants to follow the pig, which immediately rose up and led them to a house, and entering the door crawled under a bed, and began rooting up the ground, and continued doing so until he had uncovered a bloody knife. The attendants immediately seized the master of the house, who, on examination, proved to be the murderer. The villagers, having deliberated on the case, took the pig and supported him in one of the temples of Budha; visitors came frequently to see him, and gave money for his support, saying, such a sagacious pig deserves to be rewarded. After more than ten years, he died, and the priests of the temple, having procured for him a coffin, buried him with due formality.

The enchanted box. On the banks of the lake Kanning, in the province of Yunnan, some husbandmen, while digging up the ground, discovered a small iron box, on which characters were written in the ancient form (used in the time of the Han dynasty). The husbandmen did not understand this writing, but the characters by the side of it were intelligible to them, and were as follow: 'Given by a fairy, in the first year of Cheching.' The husbandmen, not knowing what the box was, broke it open, when they found a small *worm*, about an inch in length, apparently dead. The boys collecting, threw water

on it. The worm then began to stretch itself, until it became quite long, and then it darted into the air. A hurricane soon came on; the rain fell in torrents; the heavens and earth seemed enveloped in black clouds, in the midst of which appeared a horned monster, fighting with two yellow dragons. Hail, mingled with dew, descended; and the houses, and all property of the husbandmen, were destroyed.

The black pillar. Once in the district of Shaouhing, there lived a man, whose surname was Yen, who was married into the family of Wang, and was taken home by his father-in-law, who had no son of his own. After the ceremony, Yen returned to visit his family. His wife having been suddenly taken ill after his departure, a messenger was dispatched by his father-in-law to inform him of it. Yen immediately left his father's house, although it was in the middle of the night. By the light of a candle, he was proceeding along the road, when a black cloud, resembling the pillar of a temple, descended between him and the candle. If he moved the candle to the east, the pillar also moved to the east; if he moved the candle westward, the pillar moved with it, as if trying to obstruct the way, and not to permit him to proceed. Yen being very much frightened, entered the house of a friend, and having procured a servant and another candle proceeded, and the black pillar gradually disappeared, while he hastened to his wife's house. On entering, his father-in-law met him and said, you arrived a long time ago, where have you come from now? Yen replied, most certainly I have not been in before! Yen and the whole family fled in astonishment to his wife's room, where they found a man seated on her bed holding her hand. As he proceeded to his wife's side the stranger disappeared, and his lady soon expired.

Fidelity of cats. In Heängning, there lived a lad whose surname was Wang. His father had an old concubine, upwards of seventy years old, who, being extremely fond of cats, kept thirteen in her house, and loved and cherished them as children. Each one had a nickname, and came immediately at her call. In the reign of Keënlung, this old woman died. The poor cats gathered round her coffin, crying bitterly, and refused fish, rice, and every kind of food; and after three days, they all died!

ART. VIII. *Journal of Occurrences. Shipwrecked Chinese; insurrection in Szechuen; copper mines in Yunnan and Kweichow; gods of the Yellow River; the currency of Këaugse; Changling; Hengau; execution of a robber; new commander-in-chief of the land forces; census of Canton; seizure of opium.*

ON the 30th of October, 1837, a supplementary memorial was laid before the emperor, from Chung Tseäng, lieut.-governor of Fuhkeën, respecting Le Chung-ke, a military officer belonging to his majesty's forces stationed on the Pescadores, between Formosa and the main. During the 8th month of last year, Le went to Formosa; and having obtained a party of soldiers, embarked with them in a merchantman for Pänghoo (the Pescadores). After a long time, his non-arrival

induced his superior, colonel Yen Kungheën, to report the case to the lieut.-governor of Fuhkeën. On the receipt of the information, his excellency caused diligent search to be made along the whole coast of his province. At length, he ascertained, that Le's father had received a letter from his son, informing him of his being at Singapore, and stating that, while on his passage to Pānghoo, during the night of the 8th of the 10th month, a violent storm arose, and carried away the masts and rudder, with seven of the soldiers. On the 6th of the 12th month, a foreign vessel took them from the wreck, and conveyed them to Singapore. The people there, seeing that he was an officer of the celestial dynasty, treated him with politeness, and promised that he should be returned to his own country by the earliest opportunity. This account of Le, the lieut.-governor says, was well attested. He deemed it right, therefore, to *command* that Le should be sent back to Canton, and from thence to Fuhkeën. He also sent a communication to the authorities in Canton, that they might make inquiry among the foreign chiefs there, and communicate to them the requisite instructions for their *obedience*; and, on the arrival of the shipwrecked officer, take all proper and lawful measures in his behalf, and duly report thereon.

An *insurrection* of barbarians in Szechuen has been reported by the governor of that province, who had succeeded in 'annihilating' the insurgents. Of these there were two parties—one called *e fe*, 'barbarian bandits,' the other *gay e*, 'wild barbarians.'

The *copper mines* in Yunnan and Kweichow are suffering a deficit, resulting from impure ore and other causes, amounting in value to 11,597 taels. The persons, who are responsible to government for this sum, and who ought to pay the same, are, according to the report made to the emperor by the governor of the province, either reduced to utter poverty, or have absconded, so that no part of the deficit is recoverable: his majesty, therefore, is requested by Elepoo, governor of the province, to cancel the debt.

The *gods* of the Yellow River, for their recent interposition in restoring its waters, have been presented with ten sticks of incense from the emperor, who has given orders to one of his ministers, the governor of Leäng Keäng, to offer the same with becoming formalities. Some local officers were also to be rewarded, for their assistance.

The *currency* of Keängse, the brass cash, the common coin of the empire, has so fallen in price, that the lieut.-governor of the province has requested, and obtained permission to stop the coinage, until its value rises, when he is again to report, that the operations of the mint may be resumed.

Changling. This aged statesman, at the commencement of this year, was declared by the emperor to be in good health, "retaining his energies in full force." He has since been sick; and on the 30th of October, his majesty favored him with a visit in person.

Hengän, about the same time, was appointed chief examiner of the students in Mantchou. Others were appointed to examine the translators in Mongol.

A *notorious robber*, Tsäng Akeën, was executed in Canton, on the 11th instant. A reward of \$5000 was offered, some months ago, for the seizure of this man, which was at length effected by a brave lieutenant, E Hwaepun, a quondam pugilist. The robber had his trial, sentence, and execution, all in the same hour.

Kwö, the new commander-in-chief of the provincial land forces, arrived here on the 6th instant, from Peking: and entered immediately on his duties.

A *census* of Canton has been taken during the month; its object and results we have not been able to ascertain. It seems to have been an *extra* proceeding, having been taken out of the ordinary season, and by persons appointed especially for the occasion.

A *seizure of three chests of opium*, on board the 'Swift,' one of the European passage boats, was made on Wednesday night, the 10th instant, while the boat was at anchor in the river in front of the foreign factories. The three senior hong merchants called on the Committee of the Chamber of Commerce, a few days before the seizure, expressing their regret at the practice of smuggling opium at Whompoa and Canton, and entreated the Committee to use their influence to stop it, since not only the whole foreign trade, but themselves personally, might suffer greatly thereby.



